



United Republic of Tanzania

NATIONAL SAMPLE CENSUS OF AGRICULTURE
2002/2003

Volume VI: REGIONAL REPORT: **PWANI REGION**



Cattle Rearing



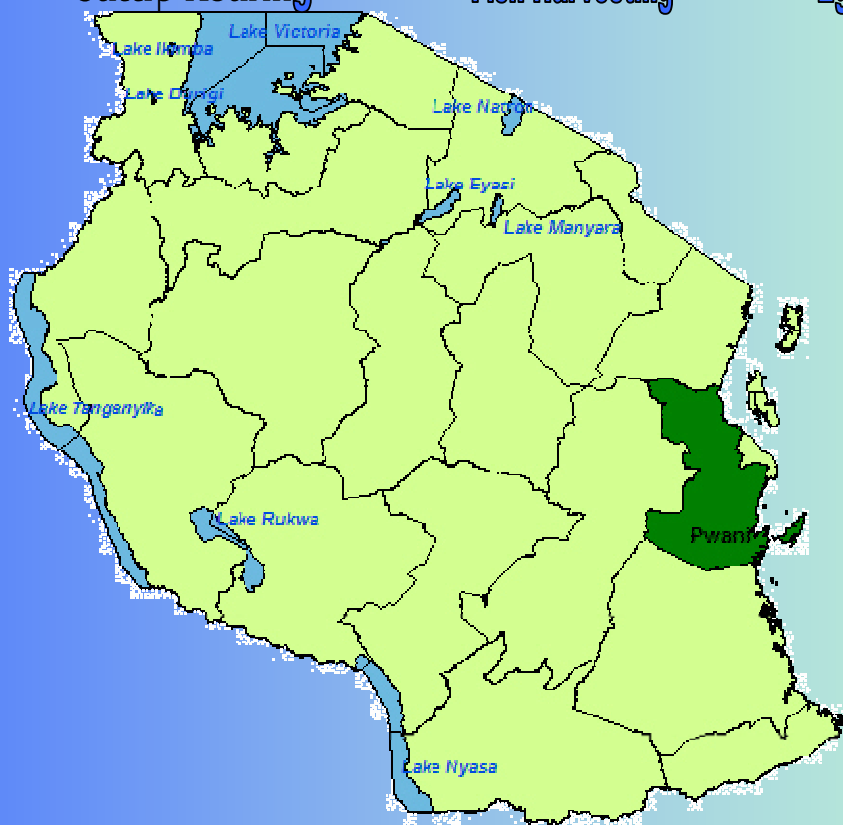
Fish Harvesting



Eggs Production



Maize Planting



Paddy Growing



Hand Cultivation



Indigenous Chicken Irrigation Practice Orange Marketing Cassava Planting Goats Rearing



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OF AGRICULTURE
2002/2003**



VOLUME VI: REGIONAL REPORT: PWANI REGION

*National Bureau of Statistics, Ministry of agriculture and Food Security,
Ministry of Water and Livestock Development, Ministry of Cooperatives and Marketing,
Presidents Office, Regional Administration and Local Government,
Ministry of Finance and Economic Affairs – Zanzibar*

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ACRONYMS

<i>ASDP</i>	<i>Agricultural Sector Development Project</i>
<i>CSPro</i>	<i>Census and Survey Processing Program</i>
<i>DFID</i>	<i>Department For International Development</i>
<i>DIAS</i>	<i>District Integrated Agricultural Survey</i>
<i>DS</i>	<i>District Supervisor</i>
<i>EAS</i>	<i>Expanded Agricultural Survey</i>
<i>EAs</i>	<i>Enumeration Areas</i>
<i>EU</i>	<i>European Union</i>
<i>FE</i>	<i>Field Enumerator</i>
<i>GDP</i>	<i>Gross Domestic Product</i>
<i>Ha</i>	<i>Hectares</i>
<i>IAS</i>	<i>Integrated Agricultural Survey</i>
<i>ICR</i>	<i>Intelligent Character Recognition</i>
<i>IEC</i>	<i>Information, Education and Communication</i>
<i>JICA</i>	<i>Japanese International Cooperation Agency</i>
<i>LRS</i>	<i>Long Rainy Season,</i>
<i>MAFS</i>	<i>Ministry of Agriculture and Food Security</i>
<i>MCM</i>	<i>Ministry of Co-operatives and Marketing</i>
<i>MWLD</i>	<i>Ministry of Water and Livestock Development</i>
<i>NBS</i>	<i>National Bureau of Statistics</i>
<i>NGO</i>	<i>Non Governmental Organization</i>
<i>NMS</i>	<i>National Master Sample</i>
<i>NSCA</i>	<i>National Sample Census of Agriculture</i>
<i>NSGRP</i>	<i>National Strategy for Growth and Reduction of Poverty</i>
<i>PORALG</i>	<i>President's Office, Regional Administration and Local Government</i>
<i>PPS</i>	<i>Probability Proportional to Size</i>
<i>PSU</i>	<i>Primary Sampling Unit</i>
<i>RAAS</i>	<i>Rapid Appraisal Agricultural Survey</i>
<i>RS</i>	<i>Regional Supervisor</i>
<i>RSM</i>	<i>Regional Statistical Manager</i>
<i>SAC</i>	<i>Scotts Agriculture Consultancy Ltd</i>
<i>SPSS</i>	<i>Statistical Package for Social Science</i>
<i>SRS</i>	<i>Short Rainy Season</i>
<i>TOT</i>	<i>Training of Trainers</i>
<i>ULG</i>	<i>Ultek Laurence Gould</i>
<i>UNDP</i>	<i>United Nations Development Programme</i>
<i>UNFAO</i>	<i>United Nations Food and Agriculture Organization</i>
<i>VPO</i>	<i>Vice President Office</i>

PREFACE

At the end of the 2002/03 Agriculture Year, the National Bureau of Statistics and the Office of the Chief Government Statistician in Zanzibar in collaboration with the Ministries of Agriculture and Food Security; Water and Livestock Development; Cooperatives and Marketing as well as the Presidents Office, Regional Administration and Local Government (PORALG) conducted the Agriculture Sample Census. This is the third Agriculture Census to be carried out in Tanzania, the first one was conducted in 1971/72, the second in 1993/94 and 1994/95 (during 1993/94 data on household characteristics and livestock count were collected and data on crop area and production in 1994/95).

It is considered that this census is one of the largest to be carried out in Africa and indeed in many other countries of the world. The census collected detailed data on crop production, crop marketing, crop storage, livestock production, fish farming, tree farming, access to infrastructures and services and poverty indicators.

In addition to this, the census was large in its coverage as it provides data that can be disaggregated at district level and thus allow comparisons with the 1998/99 District Integrated Agricultural Survey. The census covered smallholders in rural areas only and large scale farms. This report presents Pwani region data disaggregated to district level. It was very difficult to discuss all variables collected in a single report hence the analysis was based on the most important smallholder variables. The rest of the variables are found in the attached annex of table of results. The analysis in the report includes time series comparisons using data from the previous censuses and surveys.

The extensive nature of the census in relation to its scope and coverage is a result of the increasing demand for more detailed information to assist in the proper planning of this sector and in the administrative decentralization of planning to district level. It is hoped that this report will provide new insights for planners, policy makers, researchers and others involved in the agricultural sector in order to improve the prevailing conditions faced by crop producers and livestock keepers in the country.

On behalf of the Government of Tanzania, I wish to express my appreciation for the financial support provided by the development partners, in particular, the European Union as well as DFID, UNDP, Japanese Government, JICA and others who contributed through the pool fund mechanism.

Finally, my appreciation goes to all those who in one-way or the other contributed to the success of the survey. In particular, I would also like to mention the enormous effort made by the Planning Group composed of professionals from the Agriculture Statistics Department of the National Bureau of Statistics (NBS), the Office of the Chief Government Statistician in Zanzibar (OCGS) and the Statistics Unit of the Ministry of Agriculture and Food Security (MAFS) with technical assistance provided by Ultec Lawrence Gould (ULG), Scotts Agriculture Consultancy Ltd and the Food and Agriculture Organisation of the United Nations (FAO).

Additionally, I would like to extend my appreciation to all professional staff of the National Bureau of Statistics, the sector Ministries of Agriculture and PORALG, the Consultants as well as Regional and District Supervisors and field enumerators for their commendable work. Certainly without their dedication, the census would not have been such a success.

Albina A. Chuwa
The Director General
National Bureau of Statistics

EXECUTIVE SUMMARY

The executive summary highlights the main survey results obtained during the National Sample Census of Agriculture 2002/03. This report covers small-scale agriculture households in rural areas of Pwani region who were selected using statistical sampling techniques. The results in the report do not cover urban areas and large-scale farmers.

The highlights describe the important findings in relation to agricultural production, productivity, husbandry, access to resources, levels of involvement in agricultural related activities and poverty in Pwani region. Included activities are indicators for one to get an overview, at regional level, of the rural agricultural households and their levels of involvement in agricultural related activities.

i) Household Characteristics

The number of agricultural households in Pwani region were 141,530 out of which 129,349 (91.4%) were involved in growing crops only, 2,086 (1.5%) rearing livestock only, 0 (0.0%) were pastoralist, and 10,094 (7.1%) were involved in crop production as well as livestock keeping. In summary, Pwani region had 139,444 households involved in crop production and 12,180 involved in livestock production.

Most of the agricultural households ranked annual crop farming as an activity that provided most of their cash income followed by permanent crop farming, tree/forest resources, off farm income, livestock keeping/herding, remittances and fishing/hunting.

The region has a literacy rate of 63 percent. The highest literacy rate is in Mafia district (74%) followed by Kibaha district (70%), and Kisarawe district (65%). Mkuranga and Rufiji districts had the lowest literacy rates of 63 and 58 percent respectively. The literacy rate for the heads of households in the region was 66 percent.

The number of heads of agricultural households with formal education in Pwani region was 81,381 (58%), those without formal education were 53,472 (37.8%) and those with only adult education were 6,677 (4.7%). The majority of heads of agricultural households (54.2%) had primary level education whereas only 3.3 percent had post primary education.

In Pwani region, of the households with at least one member engaged in off-farm income generating activities, 72,502 households (59%) had only one member involved in off-farm income generating activities, 32,643 (26%) had two members involved in off-farm income generating activities and 18,048 (15%) had more than two members involved in off-farm income generating activities.

ii) Crop Production

▪ Land Area

The total area of land available to smallholders was 312,996 ha. The regional average land utilised for agriculture per household was only 1.8 ha. This figure was below the national average of 2.0 hectares. It was highest in Mkuranga (2.1 ha.) and lowest in Mafia (1.4 ha.)

- **Planted Area**

The area planted with annual crops and vegetables was 177,672 hectares out of which 68,141 hectares (38.4%) were planted during short rainy season and 109,531 hectares (61.6%) during long rainy season.

An estimated area of 103,559 ha (58.2% of the total planted area with annual and vegetable crops) was planted with cereals, followed by roots and tubers (51,159 ha., 28.8%), pulses (17,555ha., 9.9%), oil seed 2,920 ha., 1.6%), fruit and vegetables 2,097 ha., 1.2%) and cash crops (495ha., 1.2%)

- **Maize**

Maize was the dominant annual crop in Pwani region and it had a planted area of 70,319. The area planted with maize constitutes 40 percent of the total area planted with annual crops. Other annual crops in order of their importance (based on area planted) were cassava, paddy, cowpeas, sorghum, simsim, sweet potatoes, green grams, tomatoes, seaweed, groundnuts, water melon, pumpkins, cotton, and okra.

The total production of maize in 2002/03 was 22,991 tonnes. The average area planted with maize per household ranged from 0.8 hectares in Bagamoyo district to 0.2 hectares in Mafia district. Bagamoyo district had the largest planted area for maize (37,477 ha) followed by Rufiji (12,653 ha), Mkuranga (8,413 ha), Kisarawe (6,472 ha), Kibaha (5,215 ha) and Mafia (90 ha).

- **Paddy**

Paddy was the second most important cereal crop in the region in terms of planted area. The number of households that grew paddy in Pwani region during the long rainy season was 30,542. This represented 43 percent of the total crop growing households in Pwani Region in the long rainy season.

- **Cassava**

The area planted with cassava was larger than any other root and tuber crop in Pwani in terms of planted area (27.7% of the total area planted with annual crops and vegetables) and it accounted for 96 percent of the area planted with roots and tubers.

- **Fruit and Vegetables**

The total production of fruit and vegetables was 4,178 tonnes. The most cultivated fruit and vegetable crop was the tomato. The production for this crop was 1,944 tonnes, which amounts to 47 percent of the total fruit and vegetable production, followed by water melon 1,124 tonnes (26.9%) and pumpkins 225 tonnes (5.4%). The production of the other fruit and vegetable crops was relatively small.

- **Permanent Crops**

The area of smallholders planted area with permanent crops was 82,031 hectares which was 32 percent of the area planted with crops in the region. The most important permanent crop was cashew nuts which accounted for 52 percent of the total area planted with permanent crops followed by coconuts (21%), oranges (9.3%), pineapples (4.4%) and bananas (4.3%)

- **Improved Seeds**

The planted area using improved seeds was 15,403 ha which represented 12 percent of the total planted area with the annual crops and vegetables.

- **Use of Fertilizers**

Most annual crop growing households did not use any fertilisers. The planted area without fertiliser for annual crops was 163,388 hectares representing 92 percent of the total area planted with annual crops. Of the planted area with fertiliser application, compost was applied to 8,040 ha which represented 4.5 percent of the total planted area (56.3 % of the area planted with fertiliser application). This was followed by farm yard manure (4,669 ha, 2.6%). Inorganic fertilizers were used on a very small area and represented only 0.9 percent of the area planted with fertilizers.

- **Irrigation**

In Pwani region, the area of annual crops and vegetables under irrigation was 58,870 ha representing 33.1 percent of the total area planted. The area under irrigation during the short rainy season was 1,512 ha accounting for 2.6 percent of the total area under irrigation. However, the percentage of the planted area under irrigation during the long rainy season was 52.4 percent compared with 2.2 percent in the short rainy season.

- **Crop Storage**

There were 43,973 crop growing households (31.5% of the total crop growing households) that reported storing various agricultural products in the region.

The most important stored crop was maize with 28,351 households storing 6,888 tonnes. This was followed by beans and other pulses (11,798 households and 208t), paddy (11,095 households and 1,538t), and sorghum and millet (2,466 households and 196 tonnes). The rest of the crops were stored in very small amounts.

- **Crop Marketing**

The number of households that reported selling crop was 78,458 which represented 56 percent of the total number of crop growing households. The percent of crop growing households selling crops was highest in Mafia (80%) followed by Kisarawe (61%), Rufiji (60%), Kibaha (47%), and Bagamoyo (33%).

- **Agricultural Credit**

In Pwani region, few agricultural households (1,681, 1.2%) accessed credit, out of which 1,521 (90%) were male-headed households and 160 (10%) were female headed households. In Bagamoyo and Rufiji districts only male-headed households accessed credit (100%). In Mkuranga district both male and female headed households accessed credit.

- **Crop Extension Services**

The number of agricultural households that received crop extension was 46,727 (37% of total crop growing households in the region). Some districts had more access to extension services than others. Kisarawe district had a relatively high proportion of households that received crop extension messages (61%), followed by Kibaha (43%), Bagamoyo (32%), Mkuranga (28%), Rufiji (25%) and Mafia (4%).

- **Soil Erosion and Water Harvesting Facilities**

The number of agricultural households that reported the presence of soil erosion and water harvesting facilities in their farms was 1,935. This number represents 1 percent of total number of agricultural households in the region. The proportion of farmers with soil erosion control and water harvesting facilities was highest in Kisarawe District (4%) followed by Mkuranga (2%), Mafia (2%), Kibaha (1%), Bagamoyo (1%) and none in Rufiji.

iii) Livestock and Poultry Production**▪ Cattle**

The total number of cattle in the region was 122,308. Cattle was the dominant livestock type in the region followed by goats, sheep and pigs. The region had 0.7 percent of the total cattle population on the Tanzanian Mainland. The number of indigenous cattle was 110,360 head (90.2% of the total number of cattle in the region), 10,809 (8.8%) were dairy breeds and only 1,140 (0.9%) were beef breeds.

▪ Goats

The number of goat-rearing-households in the region was 7,621 (5% of all agricultural households) with a total of 98,604 goats giving an average of 13 head of goats per goat-rearing-households.

▪ Sheep

The number of sheep-rearing households was 1,503 (1.06% of all agricultural households) with a total of 24,334 sheep giving an average of 16 heads of sheep per sheep-rearing household.

▪ Pigs

The number of pig-rearing households in the region was 353 (0.2% of the total agricultural households) rearing about 3,673 pigs. This gives an average of 10 pigs per pig-rearing household.

▪ Chicken

The number of households keeping chicken was 79,507, raising 1,420,152 chicken. This gives an average of 18 chicken per chicken-rearing household. In terms of total number of chicken in the country Pwani ranked 13th out of the 21 Mainland regions.

▪ Use of Draft Power

The region has 92 oxen and all in Mafia district. Pwani region has 0.002 percent of the total 2,233,927 head of oxen found on the Mainland and were used to cultivate 19 hectares of land, also in Mafia district.

▪ Fish Farming

Fish farming was not practiced in Pwani region.

iv) Poverty Indicators**▪ Availability of Toilets**

It was estimated that 88.9 percent of all rural agricultural households used the traditional pit latrines, 1.7 percent used improved pit latrines and 3 percent had flush toilets. The remaining 0.02 percent of households had other unspecified types of toilets. Households with no toilet facilities represent 6.3 percent of the total agriculture households in the region.

▪ Household Assets

Out of all assets, radios had the highest percent of households owning them (69.8% of households) followed by bicycle (45%), iron (14.5%), wheelbarrow (3.1%), mobile phone (1.8%), television/video (1.2%), vehicle (1%) and landline phone (0.3%).

- **Source of Lighting Energy**

Wick lamp was the most common source of lighting energy in the region. About 78.5 percent of the total rural households used this source of energy followed by hurricane lamp (15%), pressure lamp (3%), mains electricity (1.8%), firewood (1.3%), solar (0.2%), candle (0.3%) and other (0.02%).

- **Energy for Cooking**

The most prevalent source of energy for cooking was firewood, which was used by 94.8 percent of all rural agricultural households. The second most common source of energy for cooking was charcoal (4.5%). The rest of energy sources accounted for 0.7 percent. These were bottled gas (0.2%), crop residues (0.1%), solar (0.1%), livestock dung (0.1%), paraffin/kerosene (0.1%) and gas/biogas (0.1%) and none for mains electricity.

- **Roofing Materials**

The most used roofing material (for the main dwelling) was grass and/or leaves and it was used by 66 percent of the rural agricultural households however, this was followed by iron sheets (26.7%). Other roofing materials are grass/mud (6.5%), asbestos (0.4%), tiles (0.3%) and others (0.2%).

- **Number of Meals per Day**

About 64.7 percent of the holders in the region took three meals per day, 28.1 percent took two meals, 5.4 percent took one meal and 1.8 percent took four meals.

- **Food Security**

Households which seldom had problems in satisfying their food needs represent 38.1 percent of the total number of agriculture households in the region. Households which sometimes experienced food shortage problems represent 8.6 percent whereas those who often experienced problems represent 20.9 percent. About 6.3 percent of agriculture households always faced food shortages whilst 26.2 percent had not experienced any food shortage problems.

- **Main Source of Cash Income**

Selling of cash crops was the main cash income earning activity reported by 22.7 percent of all rural agricultural households. The second main cash income earning activity was sale of food crops (22.4%) followed by selling of forest products (19.2%), casual cash earnings (10.8%) and businesses (8.6%). Other income earnings were cash remittances (5.6%), fishing (4.5%), wages and salaries (2.9%), sale of livestock products (1.5%), unspecified sources (0.9%) and lastly, sale of livestock (0.9%).

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1. BACKGROUND INFORMATION

1.1 Introduction

This part of the report presents a brief description of the region by providing information on geographical location, land area, climate, administrative set up, population and socio-economic indicators. The information aims at providing the user with a general understanding of the region and its resources.

1.2 Geographical Location and Boundaries

Pwani region was officially established in July when the former Coast region whose headquarters was in Dar es Salaam was divided to form two regions namely Dar es Salaam and the present Pwani region. Pwani region is situated on the Eastern part of Tanzania Mainland along the Indian Ocean coastal belt, located between 6⁰ and 8⁰ South of the Equator and between 37⁰ – 40⁰10' East of the Greenwich Meridian line.

Pwani region shares borders with Tanga region to the North, Morogoro regions to the West and Lindi region to the South. On the Eastern side the region shares borders with Dar es Salaam and the Indian Ocean.

The region comprises six districts of Bagamoyo, Kibaha, Kisarawe, Mkuranga, Rufiji, and Mafia. The headquarters of the new Pwani region remained to be Dar es Salaam until the year 1979 when it was shifted to Kibaha town located some 40km West of Dar es Salaam city along the highway to Morogoro.

1.3 Land Area

The region has an area of 33,539 square kilometers, which is equivalent to 3.8% of the total area of Tanzania Mainland. Dry land area covers 32,407 square kilometers (97%) and the remaining 1,132 square kilometers (3%) is covered by water.

1.4 Climate

1.4.1 Temperature

The region experiences a typical tropical climate with an average temperature of 28⁰ Centigrade.

1.4.2 Rainfall

The region has two rainy seasons, the short and the long rainy seasons. The short rainy season (Vuli) is between October and December and the Long rainy season (Masika) is between March and June, with an average of 1000 mm per year.

1.5 Population

According to the 2002 Population and Housing Census, there were 889,154 inhabitants in Pwani region, of which 440,161 were males and 448,993 were females. The population of Pwani region ranked 20th of the 21 regions in Tanzania.

1.6 Socio - Economic Indicators

The regional Gross Domestic Product (GDP) at Current Prices for the year 2003 was estimated to be TShs 226,488 million with a per capita GDP income of shillings 250,843. The region held 21st position among regions on GDP and contributed about 2.3 percent to the national GDP¹.

¹ Hali ya Uchumi wa Taifa Katika Mwaka 2003

Pwani region is well served with communication network with the rest of the regions by road and railway lines. There is one airport at Kilindoni in Mafia and one airstrip in Utete. In 1998 the region had about 2022 workers in the manufacturing industry and contributed a value added of Tshs. 2,051 million to national GDP.

In 2002 the most important cash crop in Pwani region was the cashewnut. Other important permanent crops are coconuts, oranges and pineapples. The region is famous for producing both food and cash crops. The main food crops include maize, cassava, paddy, cowpeas, sorghum, simsim, sweet potatoes and green grams. The main annual cash crops produced in Pwani region include seaweeds and cotton. Livestock keeping is also an important economic activity in the region.

2. INTRODUCTION

This part of the report provides the technical and operational description of the National Sample Census of Agriculture (NSCA), carried out in the rural areas of Tanzania Mainland and Zanzibar during the 2002/03 agricultural year. It details the background and the rationale for carrying out the NSCA in 2002/03 agricultural year. It also explains the sampling procedures, designing and implementation of the data processing system.

2.1 The Rationale for Conducting the National Sample Census of Agriculture

In 2003, the Government of Tanzania launched the Agricultural Sample Census as an important part of the Poverty Monitoring Master Plan which supports the production of statistics for advocacy of effective public policy, including poverty reduction, access to services, gender, as well as the standard crop production data normally collected in an agriculture census. The census is intended to fill the information gap and support planning and policy formulation by high level decision making bodies. It is also meant to provide critical benchmark data for monitoring Agriculture Sector Development Programme (ASDP) and other agriculture and rural development programs as well as prioritising specific interventions of most agriculture and rural development programs.

Following the decentralisation of the Government's administration and planning functions, there has been a pressing need for agriculture and rural development data disaggregated at regional and district levels. The provision of district level estimates will provide essential baseline information on the state of agriculture and support decision making by the Local Government Authorities in the design of District Agricultural Development and Investment Projects (DADIPS). The increase in investment is an essential element in the national strategy for growth and reduction of poverty.

This report (Volume V) is among the 21 regional reports for the mainland. Other Census reports include the Technical Report (Volume I), crop sector at national and regional levels including Zanzibar estimates (Volume II), Livestock Report (Volume III), Smallholder Household Characteristics and Access to Natural Resources Report (Volume IV), 21 Regional Reports for the Mainland (Volume V), Large Scale Farms Report (Volume VI) and a separate report for Zanzibar (Volume VII). In order to address the specific issue of gender, a separate thematic report on gender has been published. Other thematic reports will be produced depending on the demand and availability of funds. In addition to these reports two dissemination applications have been produced to allow users to create their own tabulations, charts and maps.

The report is divided into five main sections: Background Information, Introduction, Results, Evaluation and Conclusion and Appendices. The definitions relating to all aspects of this report can be found in the questionnaire (Appendix III).

2.2 Census Objectives

The 2003 Agriculture Sample Census was designed to meet the data needs of a wide range of users down to district level including policy makers at local, regional and national levels, rural development agencies, funding institutions, researchers, Non government Organisations (NGOs), farmer organisations, etc. As a result, the dataset is both more numerous in its sample and detailed in its scope compared to previous censuses and surveys. To date this is the most detailed Agricultural Census carried out in Africa. The census was carried out in order to:

-
- Identify structural changes if any, in the size of farm household holdings, crop and livestock production, farm input and implement use. It also seeks to determine if there are any improvements in rural infrastructure and in the level of agriculture household living conditions;
 - Provide benchmark data on productivity, production and agricultural practices in relation to policies and interventions promoted by the Ministry of Agriculture and Food Security and other stake holders.
 - Establish baseline data for the measurement of the impact of high level objectives of the Agriculture Sector Development Programme (ASDP), National Strategy for Growth and Reduction of Poverty (NSGRP) and other rural development programs and projects.
 - Obtain benchmark data that will be used to address specific issues such as: food security, rural poverty, gender, agro-processing, marketing, service delivery, etc.

2.3 Census Coverage and Scope

The census was conducted for both large and small scale farms. The National Sample Census of Agriculture covered a total of 3,221 selected rural villages of Tanzania Mainland out of which 215 villages were from Pwani region.

The census covered agriculture in detail as well as many other aspects of rural development and was conducted using three types of questionnaires:

- Small scale farm questionnaire
- Community level questionnaire
- Large scale farm questionnaire

The small scale farm questionnaire was the main census instrument and it includes questions related to crop and livestock production and practices; population demographics; access to services, resources and infrastructure; issues on poverty, gender and subsistence versus profit making production units. The main sections covered are as follows:

- Identification (i.e. region, district, ward and village)
- Household and holding characteristics
- Household information
- Land ownership/tenure
- Land use
- Access and use of resources
- Crop and vegetable production
- Agro processing and by-Products
- Crop storage and marketing
- On-farm investment
- Access to farm inputs and implements
- Use of credit for agricultural purposes
- Tree farming/agro-forestry
- Crop extension services
- Livelihood constraints

-
- Animal contribution to crop production
 - Livestock
 - Livestock products
 - Fish farming
 - Livestock extension
 - Labour use
 - Access to infrastructure and other services
 - Household facilities

The community level questionnaire was designed to collect village level data such as access and use of common resources, community tree plantation and seasonal farm gate prices.

The large scale farm questionnaire was administered to large scale farms that were either privately or corporately managed. There will be a national report on large scale farming on Tanzania Mainland.

2.4 Legal Authority of the National Sample Census of Agriculture

The NSCA 2002/03 was conducted under the legal authority of the 2000 National Bureau of Statistics Act which, among other things, makes data collected from individuals strictly confidential and to be used for statistical purposes only.

2.5 Reference Period

Two types of reference periods were used namely the agricultural year and the reference date for livestock enumeration. The agricultural year 2002/03 (that is October 2002 to September 2003) was used for the data items that are related to crop production. The reference date of enumeration for livestock and poultry count was 1st October 2003.

2.6 Census Methodology

The main focus at all stages of the census execution was on data quality and this is emphasised in this section. The main activities undertaken include:

- Census organisation
- Tabulation plan preparation
- Sample design
- Design of census questionnaires and other instruments.
- Field pretesting of the census instruments
- Training of trainers, supervisors and enumerators
- Information Education and Communication (IEC) campaign
- Data Collection
- Field supervision and consistency checks
- Data processing:
 - Scanning
 - ICR extraction of data
 - Structure formatting application
 - Batch validation application
 - Manual data entry application

Tabulation preparation using SPSS

- Table formatting and charts using Excel, map generation using ArcView and Freehand.
- Report preparation using Word and Excel.

2.6.1 Census Organization

The Census was conducted by the National Bureau of Statistics in collaboration with the sector ministries of agriculture, and the Office of the Chief Government Statistician in Zanzibar. At the national level the Census was headed by the Director General of the National Bureau of Statistics with assistance from the Director of Economic Statistics. The Planning Group, made up of staff from the National Bureau of Statistics, Department of Agricultural Statistics and three representatives from the Ministry of Agriculture and Food Security (Department of Policy and Planning), oversaw the overall operational aspects of the Census. At the regional level, implementation of census activities was overseen by the Regional Statistical Officer of NBS and the Regional Agriculture Supervisor from the Ministry of Agriculture and Food Security. At the District level, two supervisors from the President's Office, Regional Administration and Local Government (PORALG), managed the enumerators who also came from the same ministry.

Members of the Planning Group had a minimum qualification of a bachelor degree, the regional supervisors were either agricultural economists, statisticians or statistical officers. The district supervisors and enumerators had diploma level qualifications in agriculture.

The Census and Surveys Technical Working Group provided support in sourcing financing, approving budget allocations and technical assistance inputs as well as monitoring the progress of the census. A Technical Committee for the census was established with members from key stakeholder organisations (i.e. NBS, sector ministries of agriculture, President's Office, Planning and Privatization (POPP), PORALG, University of Pwani (UDSM), Tanzania Food and Nutrition Centre (TFNC) and the Office of Chief Government Statistician (OCGS) in Zanzibar). The main function of the committee was to approve the proposed instruments and procedures developed by the Planning Group. It also approved the tabulations and analytical reports prepared from the Census data.

2.6.2 Tabulation Plan

The tabulation plan was developed following three user group workshops and thus reflects the information needs of the end users. It took into consideration the tabulations from previous census and surveys to allow trend analysis and comparisons.

2.6.3 Sample Design

The Mainland sample consisted of 3,221 villages. These villages were drawn from the National Master Sample (NMS) developed by the National Bureau of Statistics (NBS) to serve as a national framework for the conduct of household based surveys in the country. The National Master Sample was developed from the 2002 Population and Housing Census. In most cases, within each selected village, data was collected from a sub-sample of fifteen agricultural households. In few large villages thirty households were selected. The total Mainland sample was 48,315 agricultural households. In Zanzibar a total of 317 EAs were selected and 4,755 agricultural households were covered. Nationwide, all regions and districts were sampled with the exception of three urban districts (two from Mainland and one from Zanzibar).

In both Mainland and Zanzibar a stratified two stage sample was used. In the first stage, villages/enumeration areas (EAs) were selected with probability proportional to the number of villages in each district. In the second stage, 15 households were selected from a list of farming households in each Village/EA using systematic random sampling. Table 2.1 gives the sample size of households, villages and districts for Tanzania Mainland and Zanzibar.

Table 2.1: Census Sample Size

Number of	Mainland	Zanzibar	Total
Households	48,315	4,755	53,070
Villages/Eas	3,221	317	3,539
Districts	117	9	126
Regions	21	5	26

2.6.4 Questionnaire Design and Other Census Instruments

The census questionnaires were designed following user/producer meetings to ensure that the information collected was in line with their data needs. Several features were incorporated into the design of the questionnaire to increase the accuracy of the data:

- Where feasible all variables were extensively coded to reduce post enumeration coding error.
- The definitions for each section were printed on the opposite page so that the enumerator could easily refer to the instructions whilst interviewing the farmer.
- The responses to all questions were placed in boxes printed on the questionnaire, with one box per character. This feature made it possible to use scanning and ICR technologies for data entry.
- Skip patterns were used to avoid asking unnecessary questions
- Each section was clearly numbered, which facilitated the use of skip patterns and provided a reference for data type coding for the programming of CSPro, SPSS and the dissemination applications.

Besides the questionnaires, there were other instruments used:

- Village listing forms that were used for listing households in the villages and from these list a systematic sample of 15 agricultural households were selected from each village.
- Training manual which was used by the trainers for the cascade/pyramid training of supervisors and enumerators. This manual was trainers guiding document on the procedures to follow during the training
- Enumerator Instruction Manual which was used as reference material.

2.6.5 Field Pre-Testing of the Census Instruments

The Questionnaire was pre-tested in five locations (Arusha, Dodoma, Tanga, Unguja and Pemba). This was done purposely to test the wording, flow and relevance of the questions and to finalise crop lists, questionnaire coding and manuals. In addition to this, several data collection methodologies had to be finalised, namely, livestock numbers in pastoralist communities, cut flower production, mixed cropping, use of percentages in the questionnaire and finalising skip patterns and documenting consistency checks.

2.6.6 Training of Trainers, Supervisors and Enumerators

Cascade/pyramid training techniques were employed to maintain statistical standards. The top level training was provided to 66 national and regional supervisors (3 per region plus Zanzibar). The trainers were members of the Planning Group and the trainees were from the National Bureau of Statistics and the sector ministries of agriculture. The second level training was for the district supervisors and enumerators. This training was conducted in the regions. In each region three training sessions were conducted for the district supervisors and enumerators. In addition to training in field level Census

methodology and definitions, emphasis was placed on training the enumerators and supervisors in consistency checking. Tests were given to the enumerators and supervisors and the best 50 percent of the trainees were selected to administer the smallholder and community level questionnaires. This increased the number of interviews per enumerator but it also released finance to increase the number of supervisors and hence the Supervisor Enumerator Ratio. The household listing exercise was carried out by all trained enumerators.

2.6.7 Information, Education and Communication (IEC) Campaign

Information, Education and Communication (IEC) is an important aspect of any census/survey undertaking. This is due to the fact that inadequately informed and hence uncooperative citizens may jeopardize the entire census/survey. As far as the 2002/03 Agricultural Sample Census was concerned, the main objective of the IEC program was to sensitize and mobilize Tanzanians to support, cooperate and participate in the census exercise.

Radio, television, newspapers, leaflets, t-shirts and caps were used to publicise the Sample Census. T-shirts and caps were used by the field staff and the village chairmen as official uniforms during the field work. The village chairmen helped to locate the selected households.

2.6.8 Household Listing

The household listing exercise was done in seven days. During the listing exercise, forms ACLF1 and ACLF2 were administered. The information collected included the number of fields operated by the household, the number of different types of livestock and poultry. This information was used to determine the agricultural households. From the list of agricultural households, 15 households were selected for the interview. The selection was done using the Random Number Table.

2.6.9 Data Collection

Data collection activities for the 2002/2003 Agricultural Sample Census took three months from January to March 2004. The data collection methods used during the census were by interview and no physical measurements, e.g., crop cutting and field area measurement were taken. Field work was monitored by a hierarchical system of supervisors at the top of which was the Mobile Response Team followed by the national, regional, and district supervisors.

The Mobile Response Team consisted of three principal supervisors who provided overall direction to the field operation and responded to queries arising outside the scope of the training exercise. The mobile response team consisted of the Manager of Agriculture Statistics Department, Long-term Consultant and Desk Officer for the Census. Decisions made on definitions and procedures were then communicated back to all enumerators via the national, regional and district supervisors.

District supervision and enumeration were done by staff from the President's Office, Regional Administration and Local Government (PORALG). National and regional supervisions were provided by senior staff of the National Bureau of Statistics and the sector ministries of agriculture. During the household listing exercise 3,221 extension staff were used. For the enumeration of the small holder questionnaire, 1,611 enumerators were used and additional 5 percent enumerators were held in reserve in case of drop outs during the enumeration exercise.

2.6.10 Field Supervision and Consistency Checks

Enumerators were trained to probe the respondents until they were satisfied with the responses given before they recorded them in the questionnaire. The first check of the questionnaires was done by enumerators in the field during enumeration. The second check was done by the district supervisors followed by regional and national supervisors. Supervisory visits at all levels of supervision focused on consistency checking of the questionnaires. Inconsistencies encountered were corrected, and where necessary a return visit to the respondent was made by the enumerator to obtain the correct information. Further quality control checks were made through a major post enumeration checking exercise where all questionnaires were checked for consistencies by all supervisors in the district offices.

2.6.11 Data Processing

Data processing consisted of the following processes:

- Manual editing
- Data entry
- Data structure formatting
- Batch validation
- Tabulation
- Illustration production
- Report formatting

Manual Editing

Prior to scanning, all questionnaires underwent a manual cleaning exercise. This involved checking that the questionnaire had a full set of pages, correct identification and good handwriting. A score was given to each questionnaire based on the legibility and the completeness of enumeration. This score will be used to assess the quality of enumeration and supervision in order to select the best field staff for future censuses/surveys.

Data entry/Scanning and ICR extraction technologies

Scanning and ICR data capture technology was used for the small holder questionnaire. This not only increased the speed of data entry, it also increased the accuracy due to the reduction in keystroke errors. Interactive validation routines were incorporated into the ICR software to track errors during the verification process. The scanning operation was so successful that it is highly recommended that this technology be adopted for future censuses/surveys.

The Census and Surveys Processing Program (CSPro) was used to enter 2,880 of small holder questionnaires that were rejected by the Intelligent Character Recognition (ICR) extraction application.

Data structure formatting

A program was developed in visual basic to automatically alter the structure of the output from the scanning/extraction process in order to harmonise it with the manually entered data. The program automatically checked and changed the number of digits for each variable, the record type code, the number of questionnaires in the village, the consistency of the Village Identification (ID) code and saved the data of one village in a file named after the village code.

Batch validation

A batch validation program was developed in order to identify inconsistencies within a questionnaire. This is in addition to the interactive validation during the ICR extraction process. The procedures varied from simple range checking within each variable to more complex checking between variables. It took six months to screen, edit and validate the data from the smallholder questionnaire. After the long process of data cleaning, the results were prepared based on a pre-designed tabulation plan.

Tabulations

Statistical Package for Social Sciences (SPSS) was used to produce the Census results and Microsoft Excel was used to organize the tables and compute additional indicators.

Analysis and report preparation

The analysis in this report focuses on regional and district production estimates, districts comparisons and time series analysis. Microsoft Excel was used to produce charts; whereas Microsoft Word was used to compile the report.

Data quality

A great deal of emphasis was placed on data quality throughout the whole exercise from planning, questionnaire design, training, supervision, data entry, validation and cleaning/editing. As a result of this NBS believes that the Census is highly accurate and representative of what was experienced at field level during the Census year. With very few exceptions the variables in the questionnaire are within the norms for Tanzania and they follow expected time series trends when compared to historical data. Standard Errors and Coefficients of Variation for the main variables can be found in the Technical Report (Volume I).

2.7 Funding Arrangements

The Agricultural Sample Census was supported mainly by the European Union (EU) who financed most of the operational activities. Other funds for operational activities came from the Government of Tanzania, Government of Japan, United Nations Development Programme (UNDP) and other partners in the Pool Fund of the Vice President's Office (VPO). In addition to this, technical assistance was provided by the European Union (EU), Department for International Development (DFID) and Japanese International Cooperation Agency (JICA). Technical assistances were managed by Ultek Laurence Gould Consultants (ULG), Scotts Agriculture Consultancy Ltd (SAC) and the Food and Agriculture Organisation (FAO).

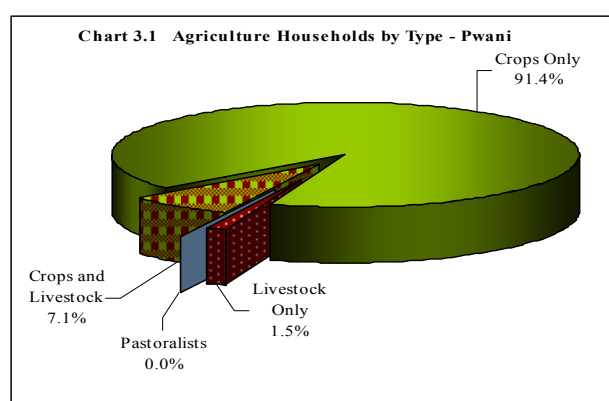
3. CENSUS RESULTS

This part of the report presents the results of the census for Pwani region based on the statistical tables presented in Appendix A2. The results are presented in different forms including brief summaries, charts, condensed tables, graphs and maps in order to make it easy for the users to understand. Comparisons are made between related variables and between districts. Comparisons are also made with past censuses and surveys' results such as the 1994/95 National Sample Census of Agriculture (NSCA), the 1995/96 and the 1996/97 Expanded Agricultural Surveys, the 1997/98 Integrated Agricultural Surveys, the 1998/99 District Integrated Agricultural Survey and the 1999/00 Rapid Agricultural Appraisal Survey. The results are divided into four main sections which are household characteristics, crop results, livestock results and poverty indicators. Compared to previous censuses and surveys, effort has been placed in analyzing the results in order to formulate solid conclusions.

3.1 Household Characteristics

3.1.1 Type of Household

The number of agricultural households in Pwani region was 141,530. The largest number of agriculture households was in Bagamoyo (37,290) followed by Mkuranga (34,744), Rufiji (30,906), Kisarawe (18,637) Kibaha, (14,029) and Mafia (5,924) (Map 3.1). *The highest density of households was found in Mkuranga (32/km²) and Mafia (27%)* (Map 3.2). Most households (129,349, 91.4%) were involved in growing crops only, 2,086 (1.5%) rearing livestock only, 0 (0.0%) pastoralists, and 10,094 (7.1%) were involved in crop production as well as livestock keeping (Chart 3.1) (Map 3.3, 3.4, 3.5 and 3.6).

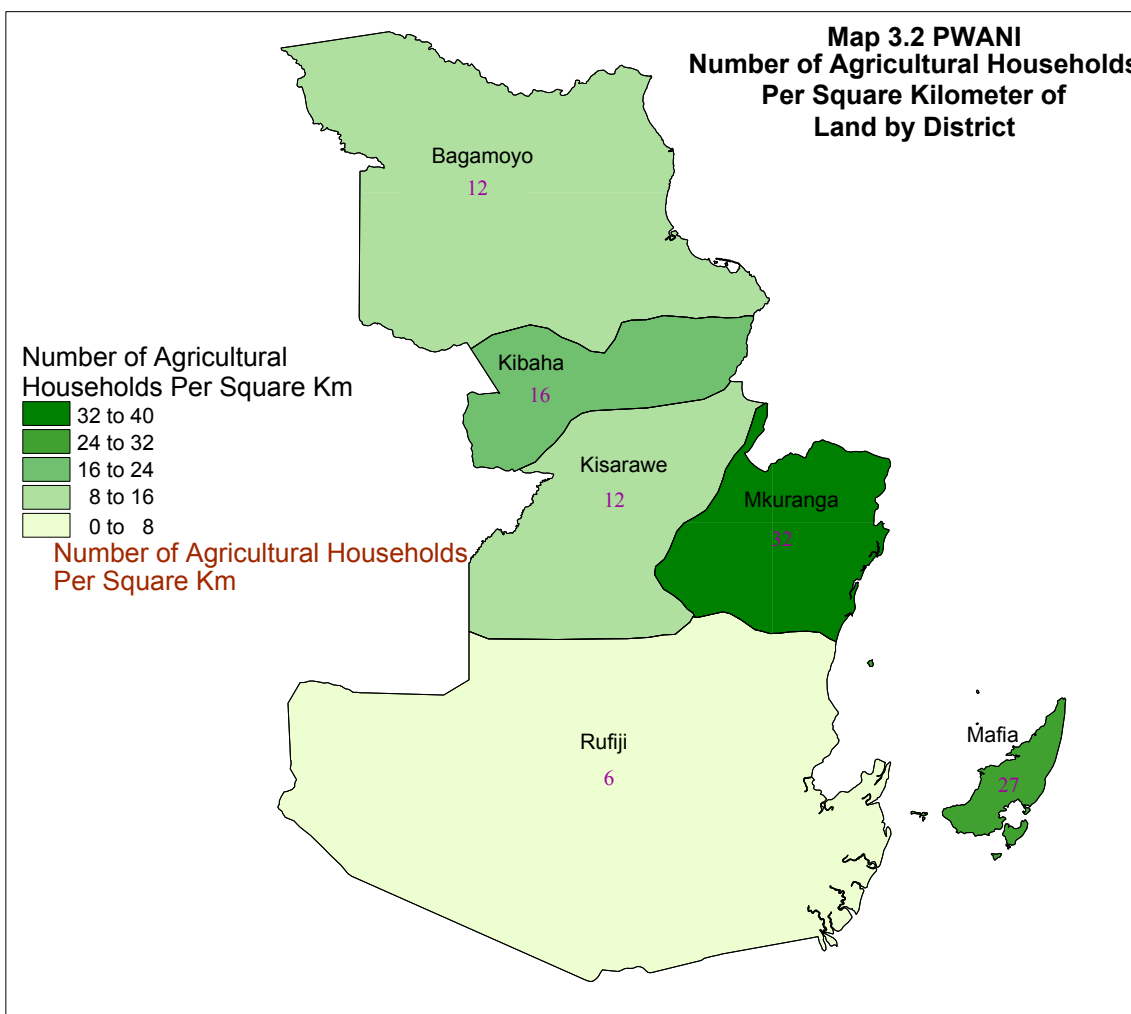
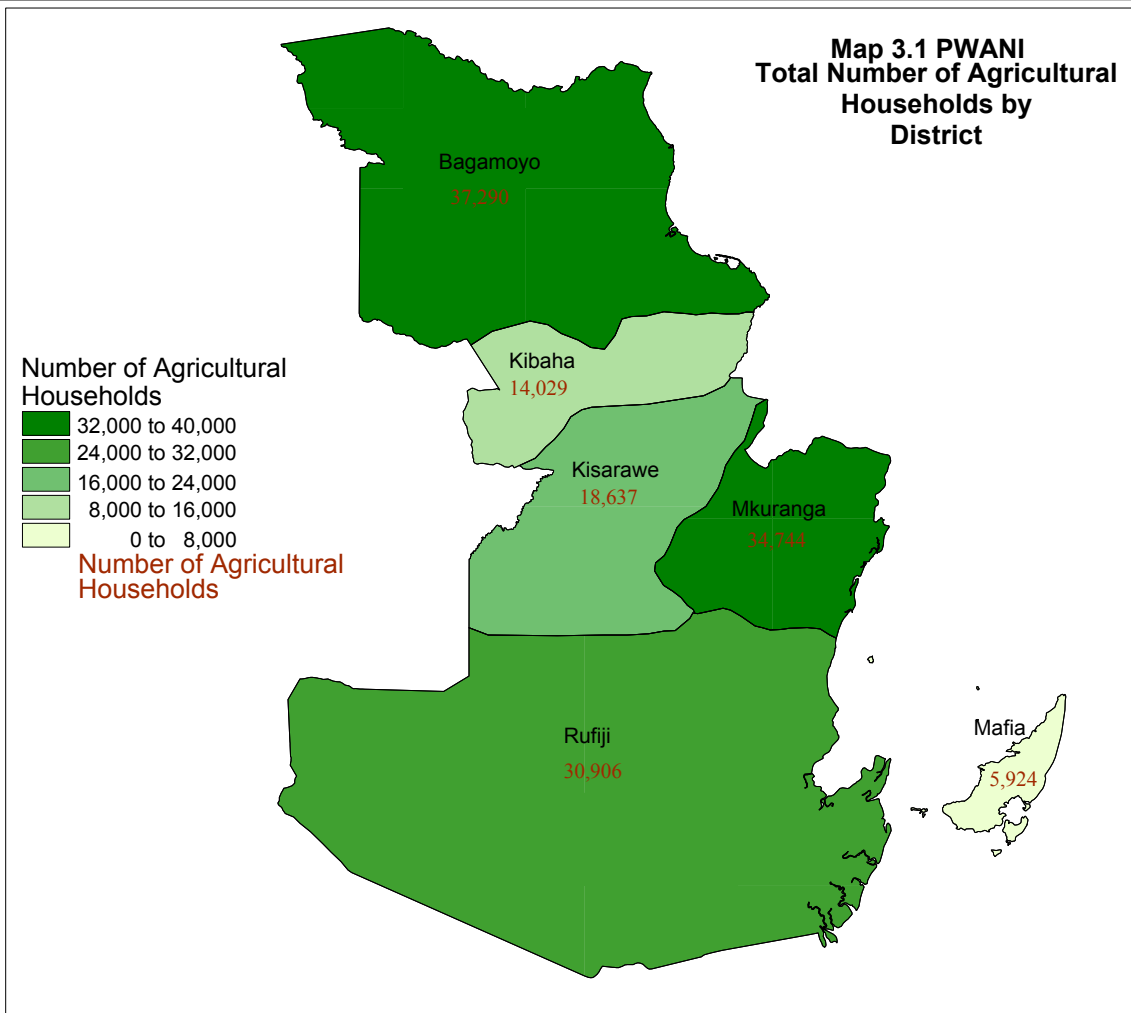


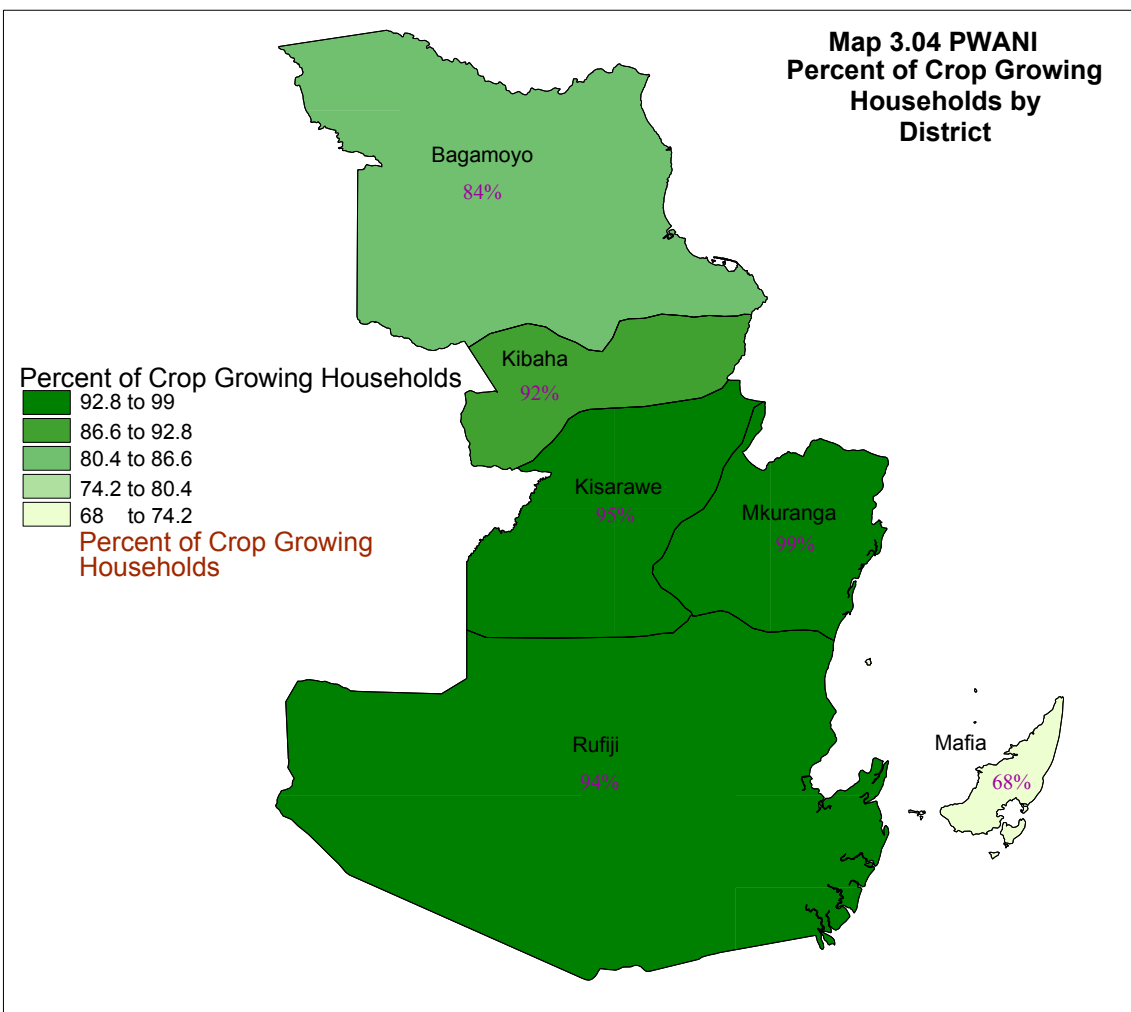
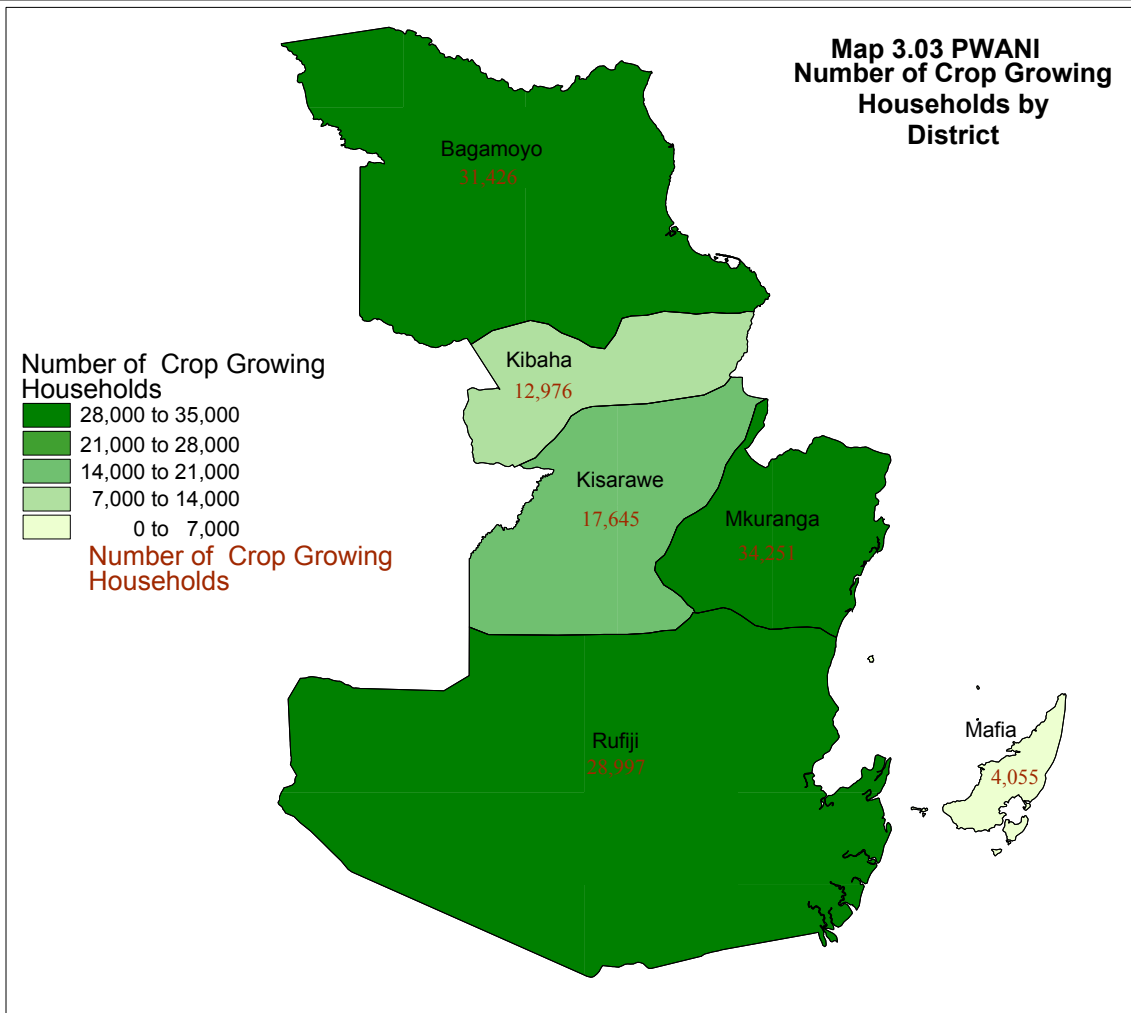
3.1.2 Livelihood Activities/Source of Income

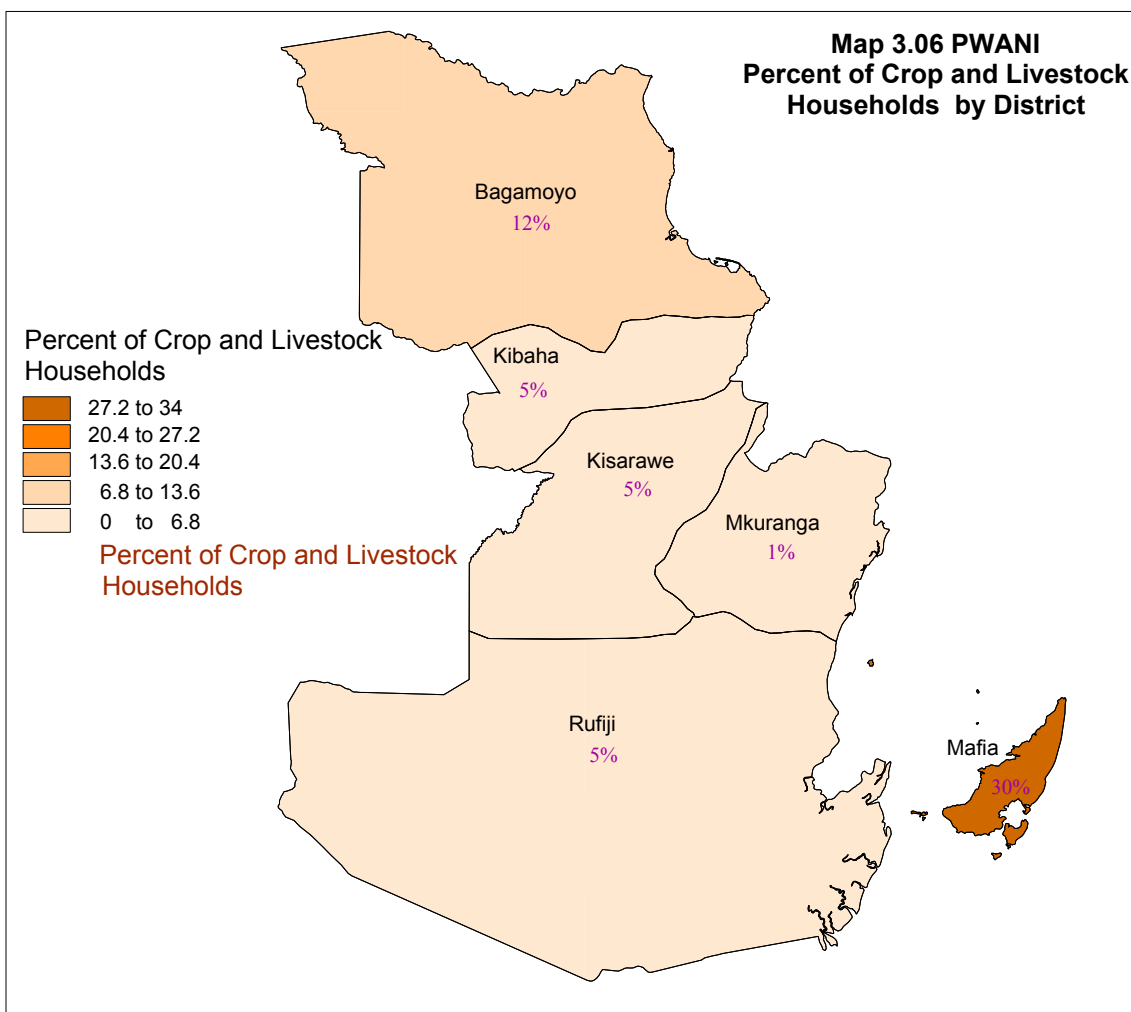
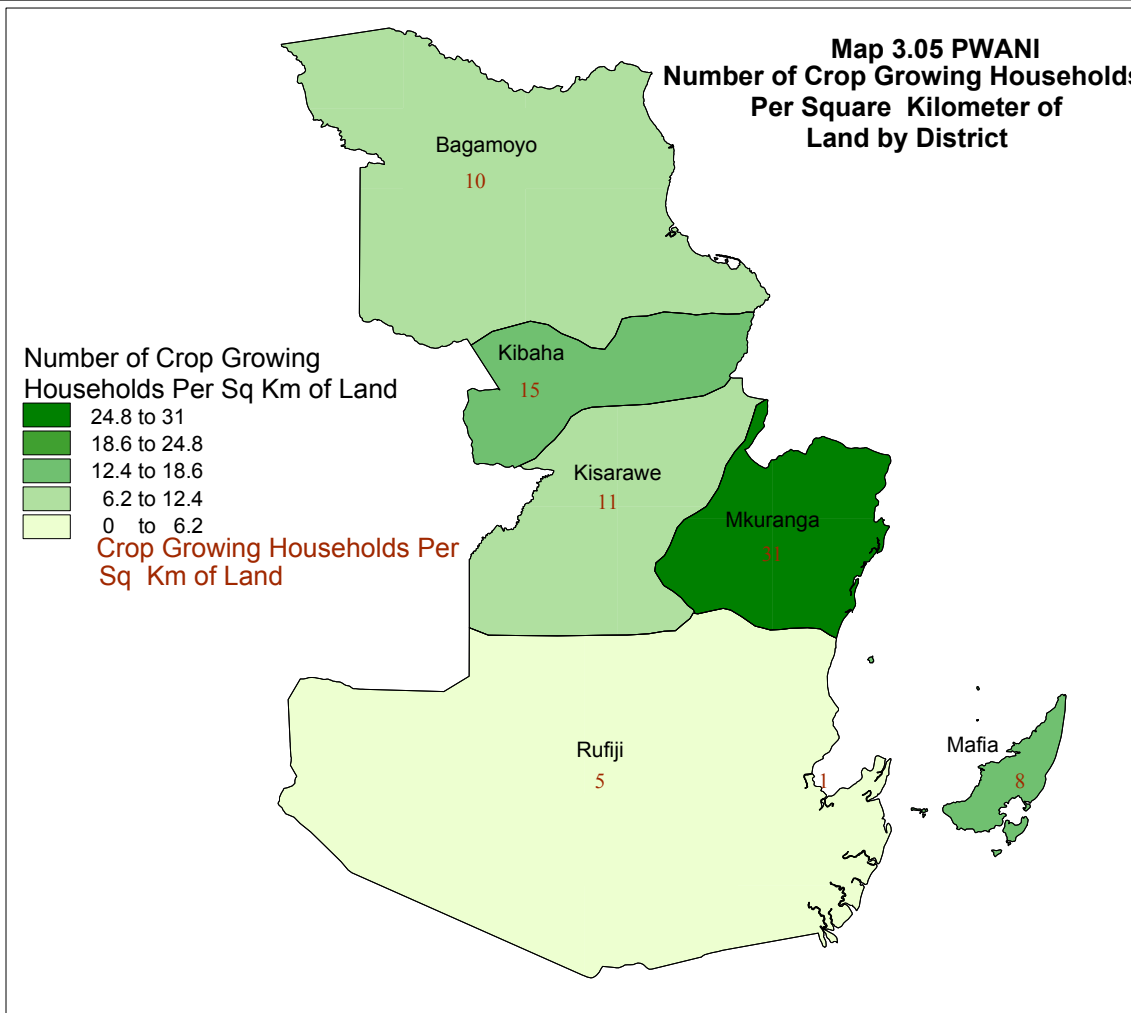
The census results for Pwani region indicates that most of the agricultural households ranked annual crop farming as an activity that provides most of their cash income followed by permanent crop farming, tree/forest resources, off farm income, livestock keeping/herding, remittances and fishing/hunting & gathering. (Table 3.1). Kisarawe and Mkuranga are the only districts whereby annual crop farming was not the most important source of livelihood, being replaced by permanent crop farming.

Table 3.1 The Livelihood Activities/Source of Income of the Households Ranked in Order of Importance by District

District	Livelihood Activity						
	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Bagamoyo	1	4	5	3	6	7	2
Kibaha	1	3	5	2	6	7	4
Kisarawe	2	1	6	4	5	7	3
Mkuranga	2	1	5	3	6	7	4
Rufiji	1	3	7	4	6	5	2
Mafia	1	2	5	3	7	4	6
Total	1	2	5	4	6	7	3

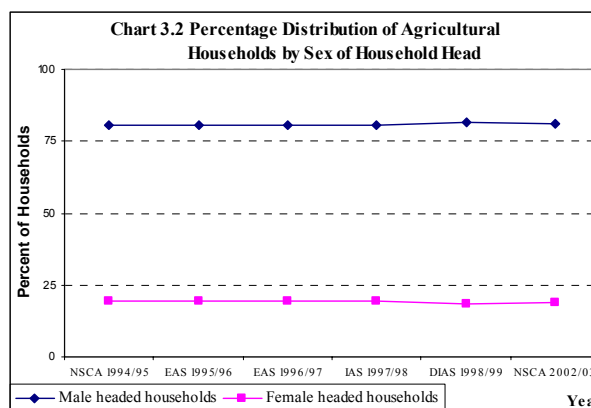






3.1.3 Sex and Age of Heads of Households

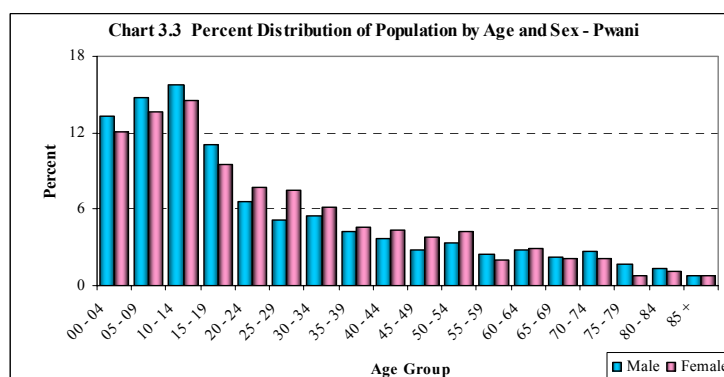
The number of male-headed agricultural households in Pwani region was 115,108 (81% of the total regional agricultural households) whilst the female-headed households were 26,422 (19% of the total regional agricultural households). The mean age of household heads was 49 years (48 years for male heads and 53 years for female heads) (Chart 3.2)



The percentage trend for six censuses/surveys years shows that there has not been any significant change in the distribution of agricultural households between male and female heads.

3.1.4 Number and Age of Household Members

Pwani region had a total rural agricultural population of 712,995 of which 354,379 (50%) were males and 358,616 (50%) were females. Whereas age group 0-14 constituted 42 percent of the total rural agricultural population, age group 15–64 (active population) was only 50 percent. Pwani region had an average household size of 5 with all districts having the same household size of 5 (Chart 3.3).



3.1.5 Level of Education

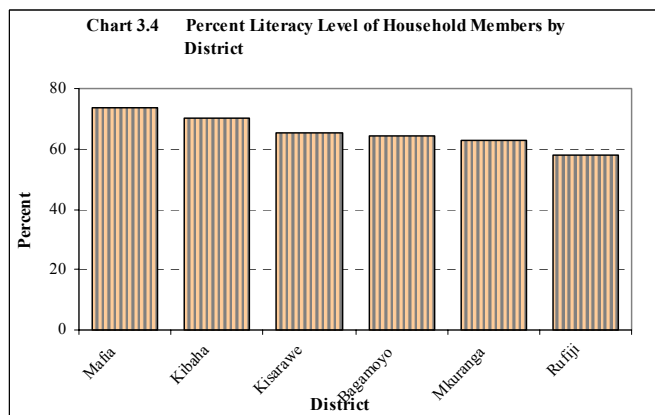
In order to obtain information on the level of education, information on literacy and education attainment were obtained for all persons aged five years and above in all households.

Literacy

The information on literacy level for family members aged five years and above was obtained by asking individual private households if their respective family members could read and write in Kiswahili only, English only, both English and Swahili or in any other language. Literacy was based on the ability to read and write Swahili, English or both.

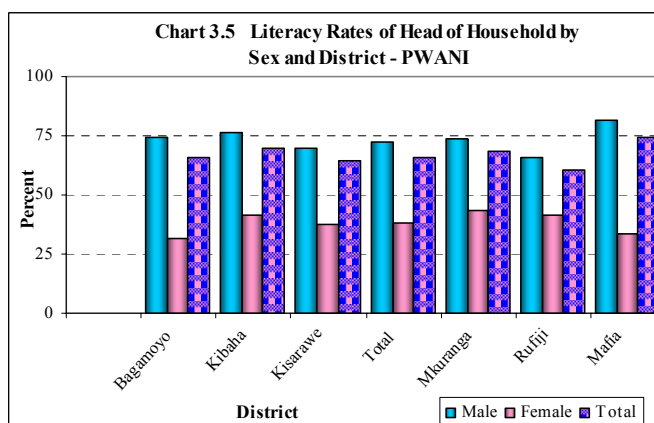
Literacy Level for Household Members

Pwani region had a total literacy rate of 63 percent. The highest literacy rate was found in Mafia district (74%) followed by Kibaha district (70%) and Kisarawe district (65%). Rufiji and Mkuranga districts had the lowest literacy rates of 58 and 63 percent respectively (Chart 3.4).



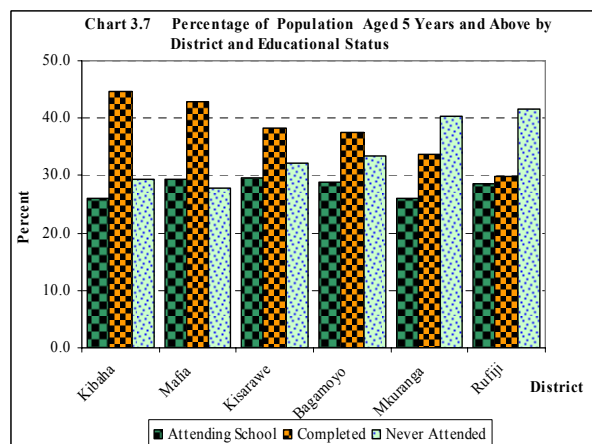
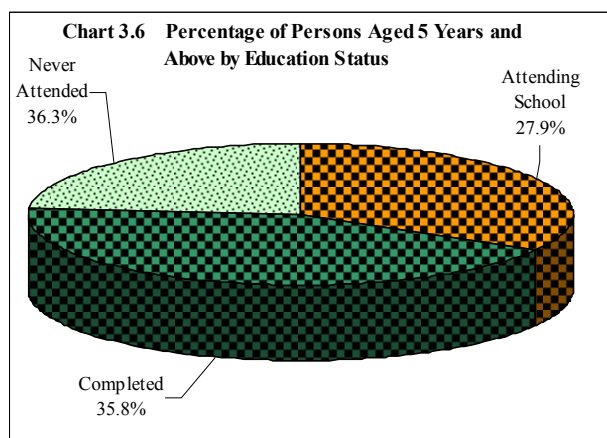
Literacy Rates for Heads of Households

The literacy rate for the heads of households in the region was 66 percent. The literacy rate for the maleheads was 72 percent and that of female heads of households was 38 percent. The literacy rate of male heads was higher than that of female heads in all districts. The district with the highest literacy rate amongst heads of households was Mafia (74%) followed by Kibaha (70%), Mkuranga (69%), Bagamoyo (66%), Kisarawe (64%), and Rufiji (61%) (Chart 3.5).



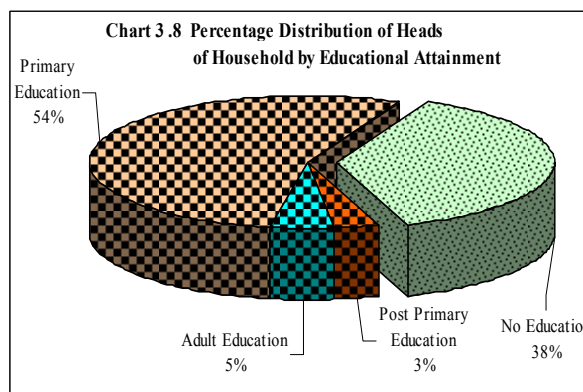
Educational Status

Information on educational status was collected from individual agricultural households. The results show that 35.8 percent of the population aged 5 years and above in agricultural households in the region had completed different levels of education and 27.9 percent were still attending school. Those who have never attended school were 36.3 percent (Chart 3.6).



Agricultural households in Kibaha district had the highest percentage (44.6%) of population aged 5 years and above who had completed different levels of education. This was followed by Mafia and Kisarawe districts with 42.9 and 38.3 percent respectively. Rufiji and Mkuranga districts had the lowest percentages of 29.9 and 33.7 respectively.

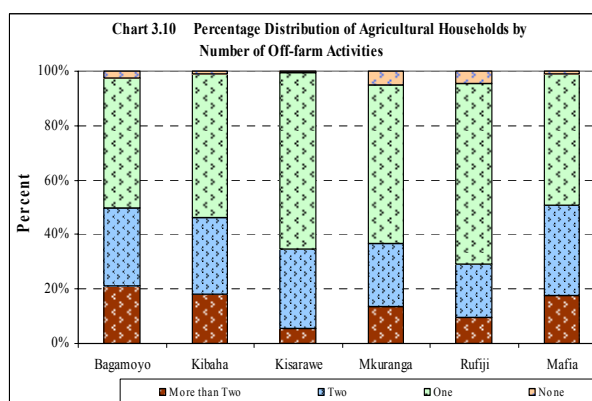
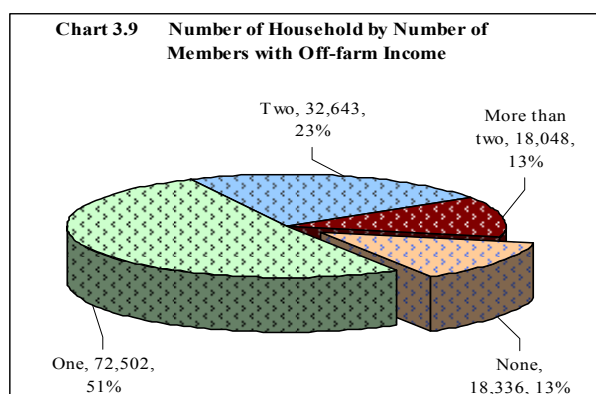
The number of heads of agricultural households with formal education in Pwani region was 81,381 (58%), those without formal education were 53,472 (38%) and those with only adult education were 6,677 (5%). The majority of heads of agricultural households (54%) had primary level education whereas only 3 percent had post primary education.



With regard to the heads of agricultural households with primary or secondary education in Pwani region, Bagamoyo district had the highest percentages (29% for primary and 20% for secondary). This was followed by Mkuranga (22% primary and 33% secondary), Rufiji (21% primary and 16% secondary) and Kisarawe (14% primary and 10% secondary). Mafia had the lowest percentage of heads of agricultural households with both primary education (5%) and secondary education (6%) (Chart 3.8).

3.1.6 Off-farm Income

Off-farm income refers to cash generated from non-agricultural activities. This can be either from permanent employment (i.e., government, private sector or other), temporary employment or labourers. It also includes cash generated from working on farms belonging to other farmers. Off-farm income is important amongst agriculture households in Pwani with 87 percent of households having at least one member with off-farm income. In Pwani region, of the 123,194 households with at least one member engaged in off-farm income generating activities, 72,502 households (59%) had only one member aged 5 and above involved in only one off-farm income generating activity, 32,643 households (26%) had two members involved in off-farm income generating activities and 18,048 households (15%) had more than two members involved in off-farm income generating activities.



Kisarawe district had the highest percentage of agriculture households with off-farm income (98% of total agriculture households in the district). Other districts with high percent of agriculture households with off-farm income were Bagamoyo (92%), Kibaha (90%), and Mkuranga (82%). Rufiji and Mafia districts had the lowest percent of agriculture households with off-farm income (81% and 79% respectively). (Chart 3.11).

3.2 Land Use

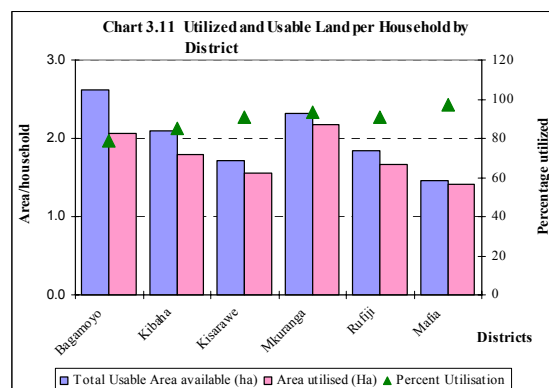
Land area and planted area are two different types of area measurements. Land area refers to the physical area of land and is the same regardless of the number of crops planted on it in one year. Planted area is the total area of crops planted in a year and the area is summed if there were more than one crop on the same land per year. A number of terms are used in this section which requires defining for clarification as follows:

Land available refers to the area of land that has been allocated to smallholders through customary law, official title or other forms of ownership. Land available does NOT mean the total area of land that is designated as agriculture land in the country, but it is the land that is available to smallholders given the location of villages and lack of access to more remote parcels of unused agriculture designated land.

Usable land refers to the available land minus the land that cannot be used e.g. bare rock, shallow soils, steep slopes, swamp areas etc. It does however include un-cleared bush, Utilised land refers to the land that was used during the year.

3.2.1 Area of Land Utilised

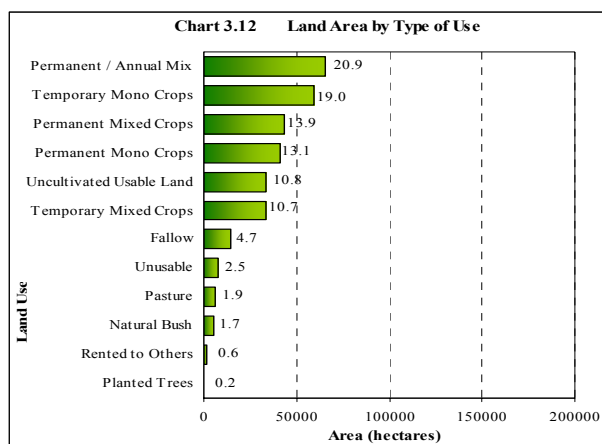
The total area of land available to smallholders was 312,996 ha. The regional average land area utilised for agriculture per household was only 1.8 ha. This figure is below the national average which is estimated at 2.0 hectares. Eighty percent of the total land available to smallholders was utilised. Only 20.0 percent of usable land available to smallholders was not used (Chart 3.11) Map 3.7.



Large differences in land area utilised per household existed between districts with Bagamoyo and Mkuranga utilizing between 1.8 and 2.1 ha per household. The smallest land area utilised per household was found in Mafia (1.4 ha). The percentage utilized of the usable land per household was highest in Mafia (94%) and lowest in Bagamoyo (68%).

3.2.2 Types of Land Use

The area of land under permanent/annual mix was the largest at 65,532 hectares (20.9% of the total land available to smallholders in Pwani), followed by temporary monocrop (59,468 ha, 19.0%), permanent mixed crop (43,438 ha, 13.9%), permanent monocrop (41,042 ha, 13.1%), uncultivated usable land (33,671 ha, 10.8%), temporary mixed crops (33,566 ha, 10.7%), area under fallow (14,787 ha, 4.7%), unusable area (7,702 ha, 2.5%), area under pasture (5,932 ha, 1.9%), area under natural bush (5,319 ha, 1.7%), area rented to others (1,818 ha, 0.6%) and area planted with (722 ha, 0.2%).



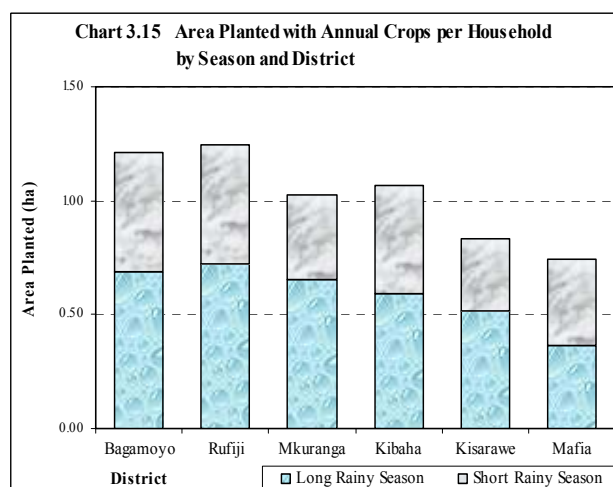
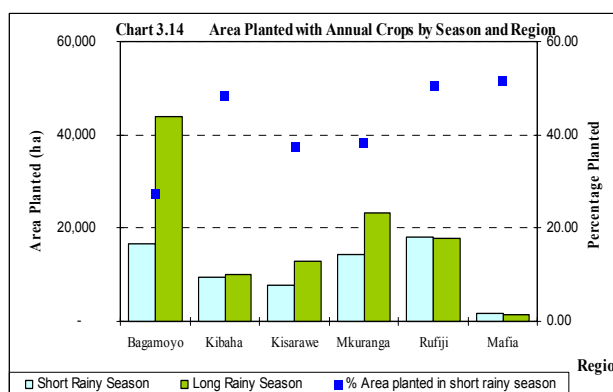
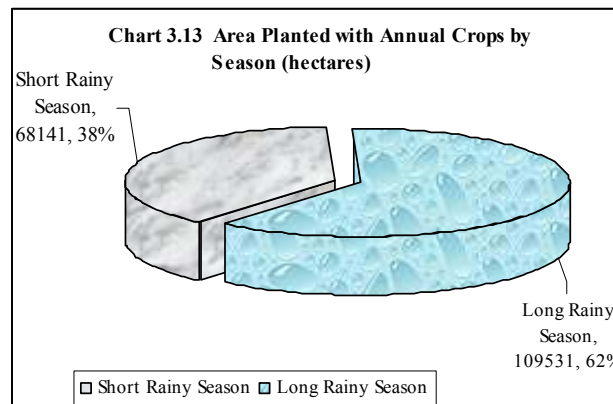
3.3 Annual Crops and Vegetable Production

Pwani region has two rainy seasons, namely the short rainy season (October to November) and the long rainy season (April to May). The quantity of crops produced in both seasons will be used as a base in comparing with results from the past surveys and censuses.

3.3.1 Area Planted

The area planted with annual crops and vegetables was 177,672 hectares out of which 68,141 hectares (38.4%) were planted during short rainy season and 109,531 hectares (61.6%) during long rainy season. (Chart 3.13). The average areas planted per household during the short and long rainy seasons were 0.7 and 1.6 ha respectively. The districts with the largest area planted per household (the average of the two seasons) were Mkuranga (1.5 ha) followed by Kisarawe and Rufiji (1.3 ha). The district with the smallest average area planted was Mafia (0.5ha). In all districts the average area planted during the long rainy season was higher than that of the short rainy season except Mafia district the average area planted during the short rainy season is the same as that of the long rainy season (Chart 3.14 and Map 3.8).

The planted area occupied by cereals was 103,560 ha (58.3% of the total area planted with annuals). This was followed by roots and tubers (51,158 hectares, 28.8%), pulses (17,552 hectares, 9.9%), oil seeds (2,920 hectares, 1.6%), fruit and vegetables (1,987 hectares, 1.1%), and cash crops (495 hectares, 0.3%). The average area planted per household during the long rainy season in Pwani region was 1.6 hectares, however, there were large district differences. The districts with the largest area planted per household (the average of the two seasons) were Mkuranga (1.5 ha) followed by Kisarawe and Rufiji (1.3 ha). The district with the smallest average area planted was Mafia (0.5ha). (Chart 3.15 and Map 3.9).

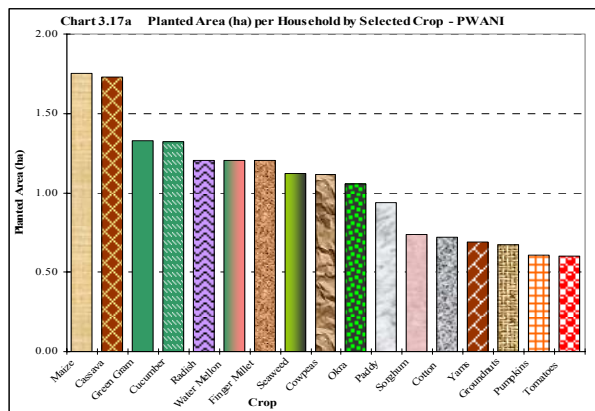
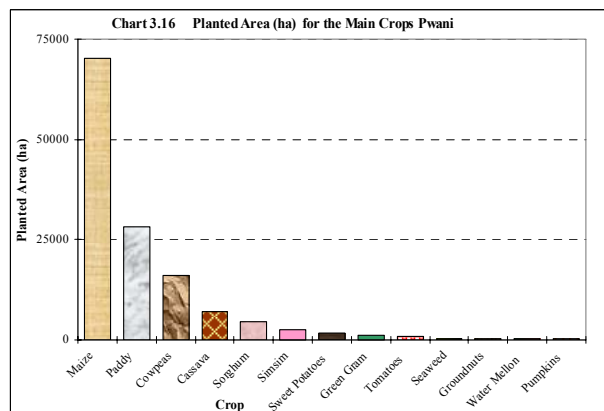


Analysis of the Most Important Crops

Results on crop production are presented in two different sections. The first section compares the importance of each crop regardless of whether they are annual or permanent. The second section contains a more detailed analysis on production based on crop types.

3.3.2 Crop Importance

Maize is the dominant annual crop grown in Pwani region and it had a planted area 1.4 times greater than cassava, which

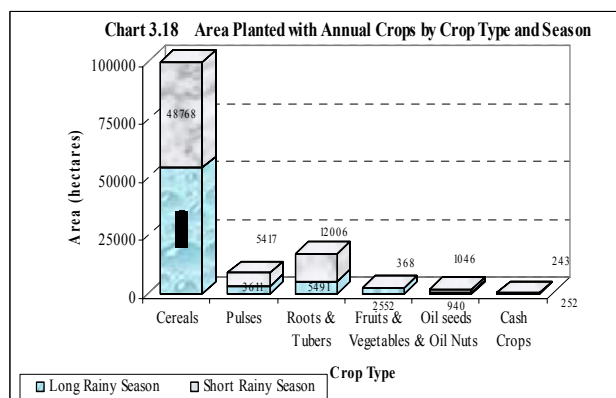
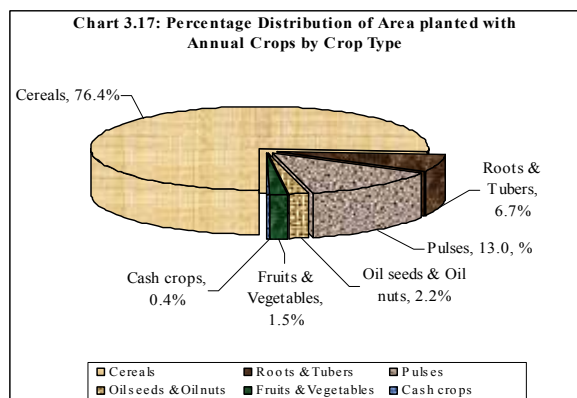


had the second largest planted area. The area planted with maize and cassava constituted 67.3 percent of the total area planted with annual crops in the region. The area planted with maize only constituted 40 percent. Other crops in order of their importance (based on area planted) were paddy, cowpeas, sorghum, simsim, sweet potatoes and green grams. (Chart 3.16). Households that grew maize, cassava and green gram had larger planted areas per household than for other crops (Chart 3.17a).

3.3.3 Crop Types

Cereals are the main crops grown in Pwani region. The area planted with cereals was 103,097 ha (76.4% of the total planted area), followed by pulses with 17,497 ha (13.0%), root and tubers 9,028 ha (6.7%), oil seeds 2,920 ha (2.2%) and fruits and vegetables 1,987 ha (1.5%). Annual cash crops that are constituted of cotton and seaweed had got the least planted area of about 495 ha (0.4%) (Chart 3.17b).

Cereals and pulses are the dominant crops in both seasons and other crop types are of minor importance in comparison. There is little difference in the proportions of the different crop types grown between seasons and because short rainy



season production was very small compared to long rainy season it is inappropriate to make detailed comparisons between the two seasons (Chart 3.18).

3.3.4 Cereal Crop Production

The total production of cereals was 31,358 tonnes. Maize was the dominant cereal crop at 22,991 tonnes which was 73 percent of total cereal crops produced, followed by paddy

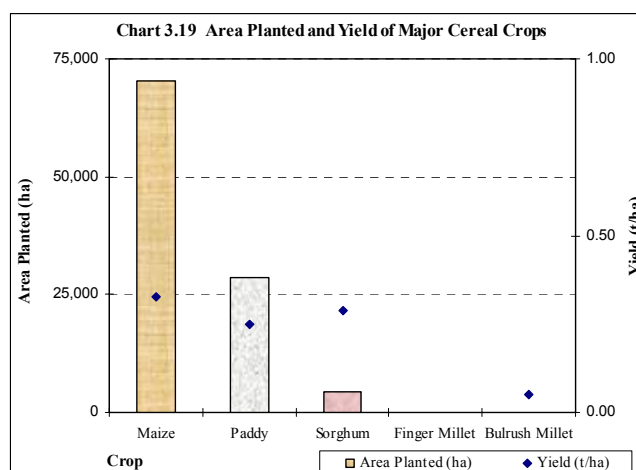
Table 3.2: Area, Production and Yield of Cereal Crops by Season

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tonnes)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tonnes)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tonnes)	Yield (kg/ha)
Maize	38,019	11,561	304	32,300	11,430	354	70,319	22,991	327
Paddy	9,937	2,305	232	18,574	4,756	256	28,511	7,062	248
Sorghum	798	425	533	3,675	855	233	4,473	1,280	286
Finger Millet	30	18	618	71	4	59	101	23	227
Bulrush Millet	41	2	50	0	0	0	41	2	50
Total	48,825	14,312		54,620	17,046		103,446	31,358	

(23%) sorghum (4.1%), Finger millet (0.07%) and Bulrush millet (0.01%). Bagamoyo district had the largest planted area of Cereals in the region (44,590ha) followed by Rufiji, (24,499ha), Mkuranga (14,511ha), Kibaha (9,998ha), Kisarawe (8,442ha) and Mafia (1,521ha). (Map 3.10).

The total area planted with cereals during the short and long rainy seasons was 103,560 ha out of which 48,939 ha (47.4%) were planted in short rainy season and 54,620 ha (52.4%) were planted during the long rainy season. The long rainy season accounts for 54 percent of the total cereals produced in both seasons. The area planted with maize during the short rainy season was 77.7 percent of the total area planted with cereals in that season followed by paddy (20.3%) and sorghum (1.6%) (Table 3.2).

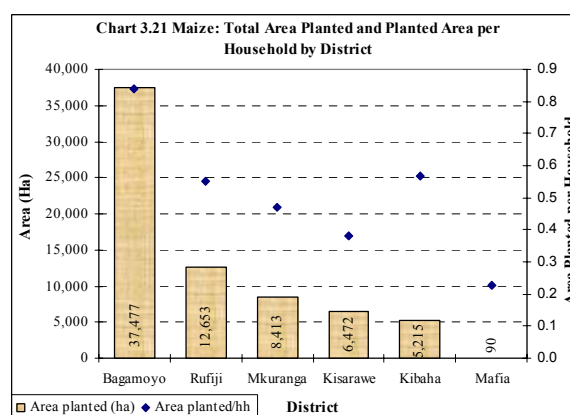
The area planted with maize was dominant and it represented 67.9 percent of the total area planted with cereal crops, then followed by paddy (27.59%), sorghum (4.32%), burley (0.11%), finger millet (0.10%) and bulrush millet (0.04%).

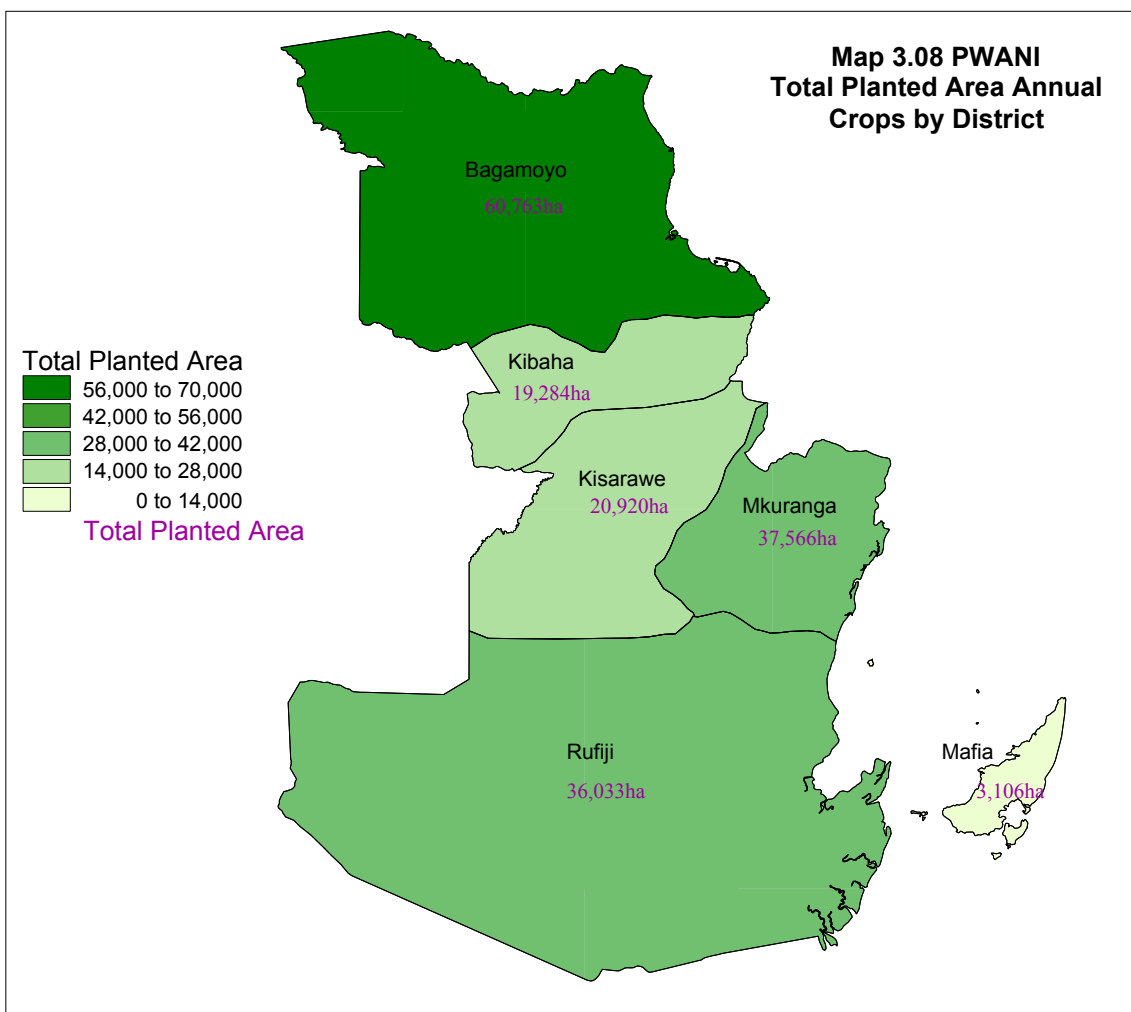
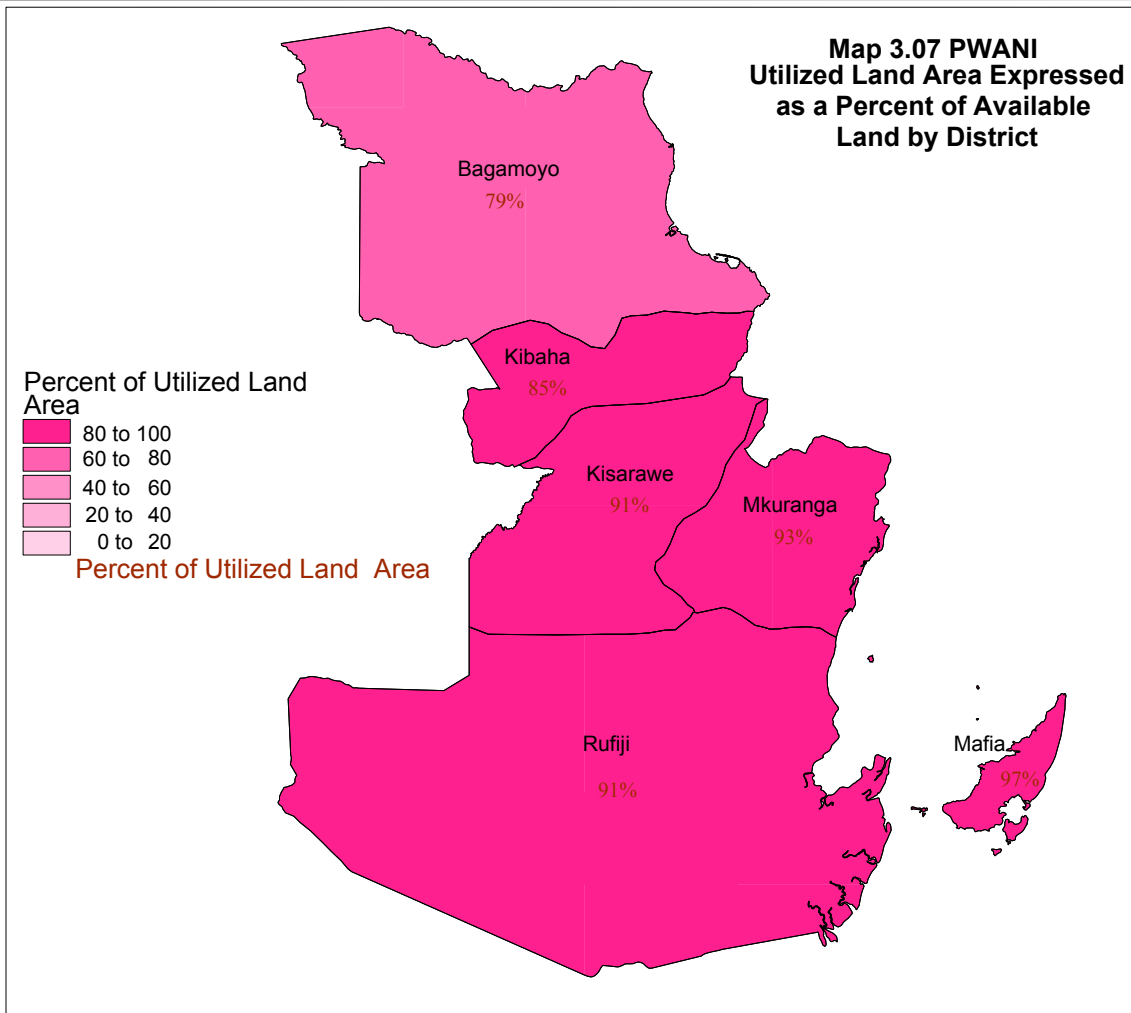


The yield of maize was 327 kg/ha, followed by sorghum (286 kg/ha), paddy (248 kg/ha) and Bulrush millet (50 kg/ha). Wheat and barley were not grown in the region (Chart 3.19).

3.3.4.1 Maize

Maize dominates the production of cereal crops in the region. The number of households growing maize in Pwani region during the long rainy season was 40,193, (57% of the total crop growing households in the region during the long rainy season). The total production of maize was 22,991 tonnes from a planted area of 70,319 hectares resulting in a yield of 0.3 t/ha.





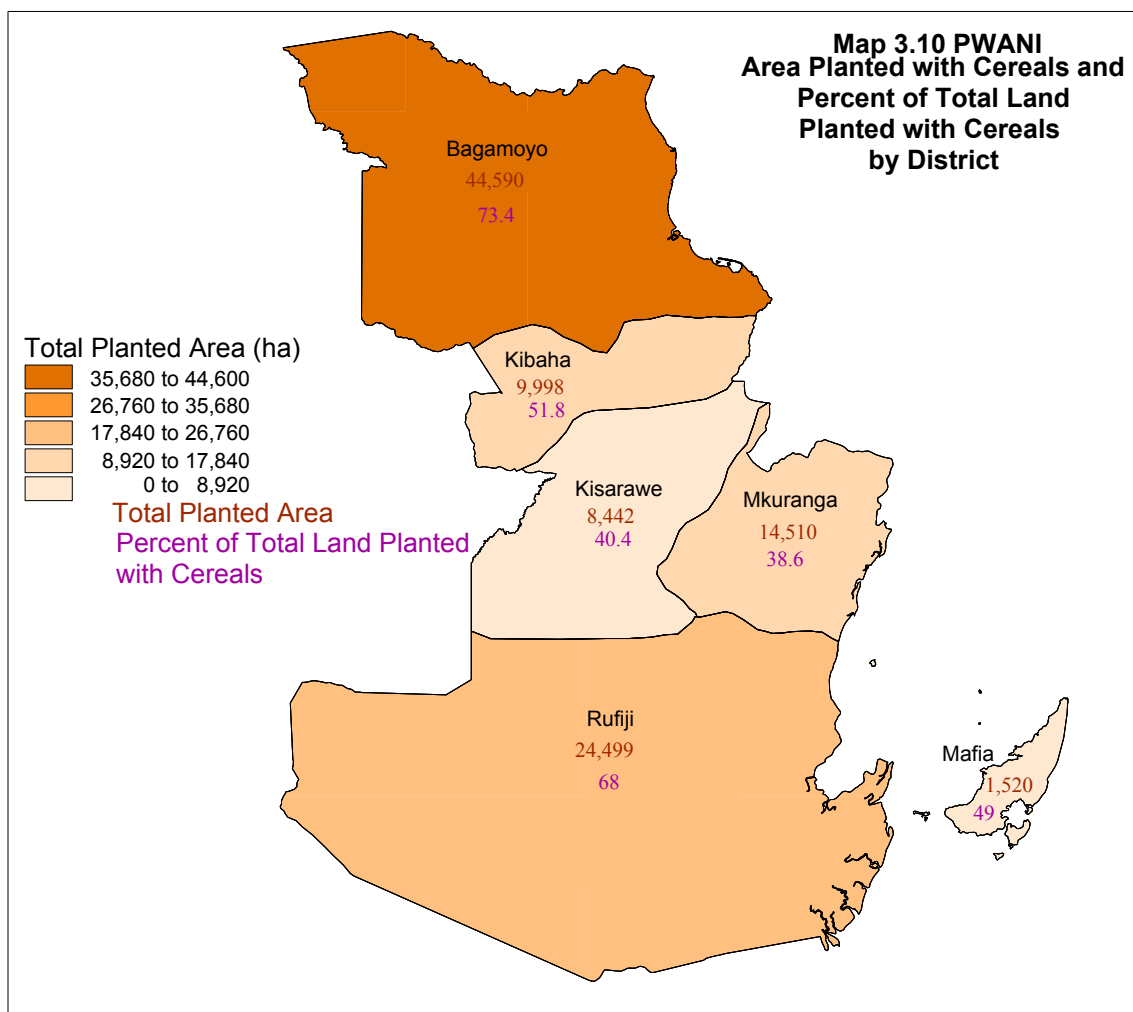
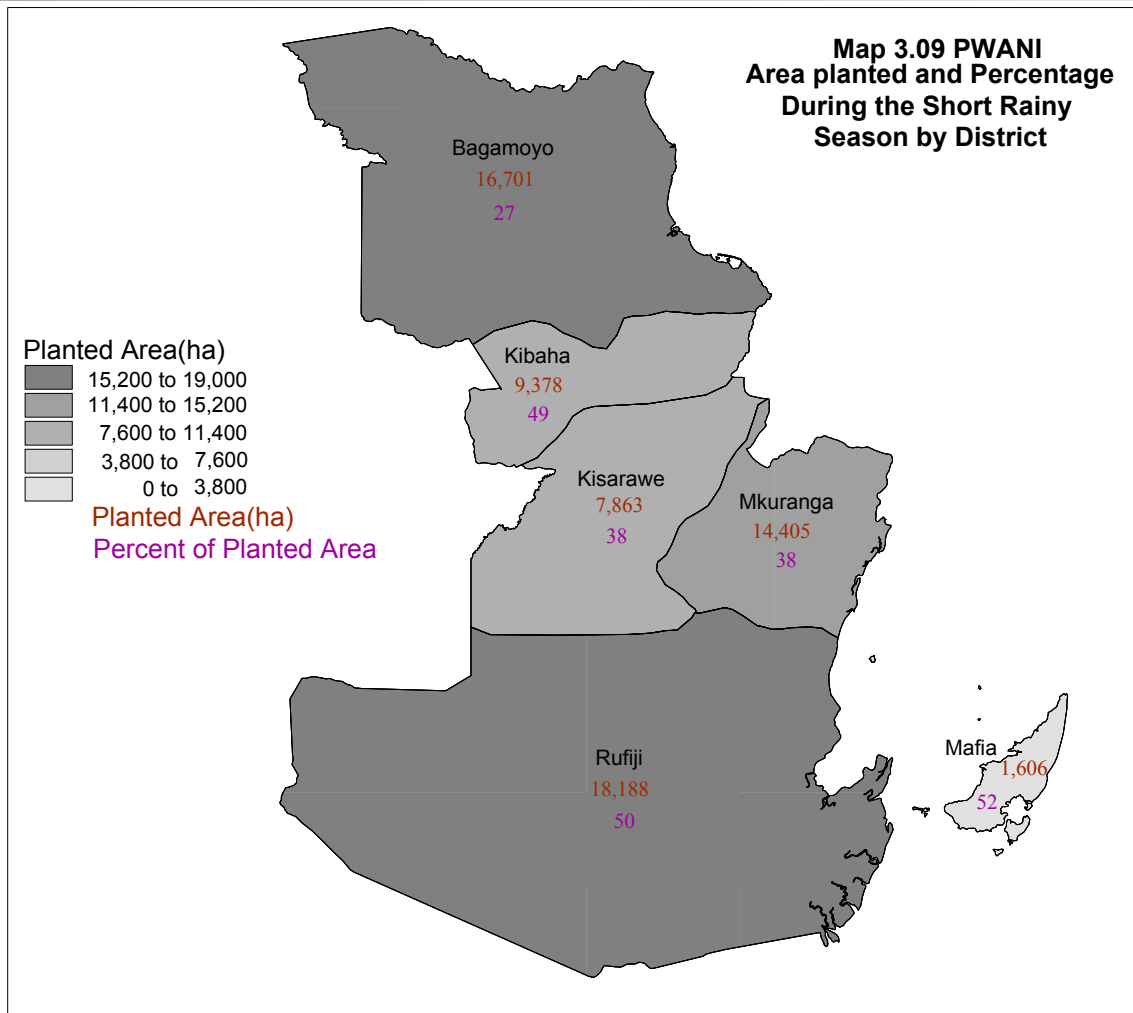
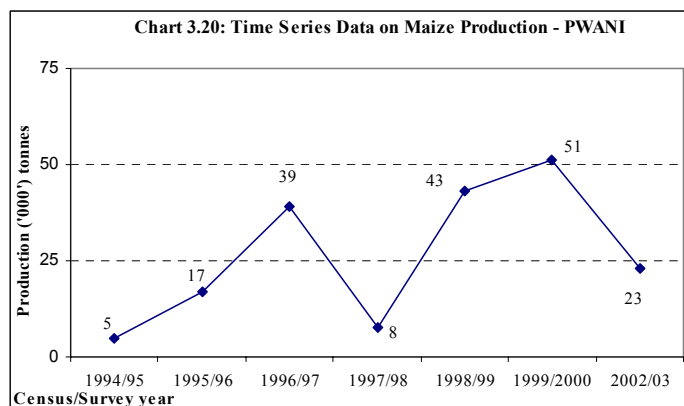


Chart 3.20 indicates maize production trend (in thousand metric tonnes) for the combined long and short rainy seasons. With the exception of the year 1997/98 when the production dropped sharply, production of maize increased over the period 1994/95 to 1999/2000. However, in 2002/2003 the maize production was much lower than that of 1999/2000. The average area planted with maize per household was 0.63 hectares, however it ranged from 0.2 hectares in Mafia district to 0.8 hectares in Bagamoyo district (Map 3.12). Bagamoyo district had the largest area of maize (37,477 ha) followed by Rufiji (12,653 ha), Mkuranga (8,413 ha), Kisarawe (6,472 ha), Kibaha (5,215 ha), and Mafia (90 ha) (Chart 3.21 and Map 3.11).

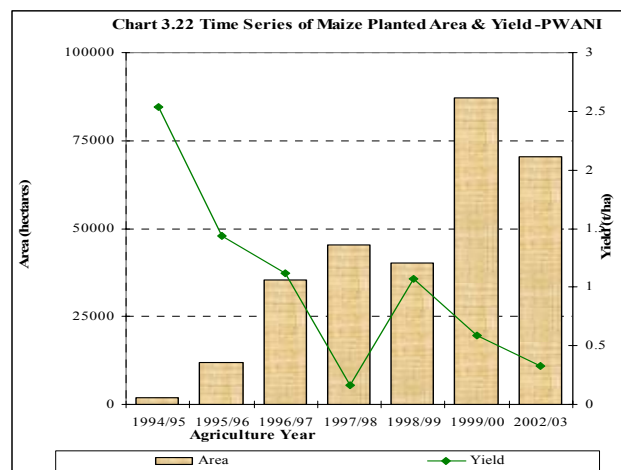


Charts 3.20 and 3.22 show that, whilst the yield of maize dropped over the 8-year period from 1994/95 to 2002/2003, the quantity produced increased and this was due to a large increase in the planted area. The area planted with maize remained almost constant over the period from 1996 to 1998 it increased sharply. However, the general trend of the yield of maize has shown a decline over the period 1996 to 2003 (from 1.3t/ha

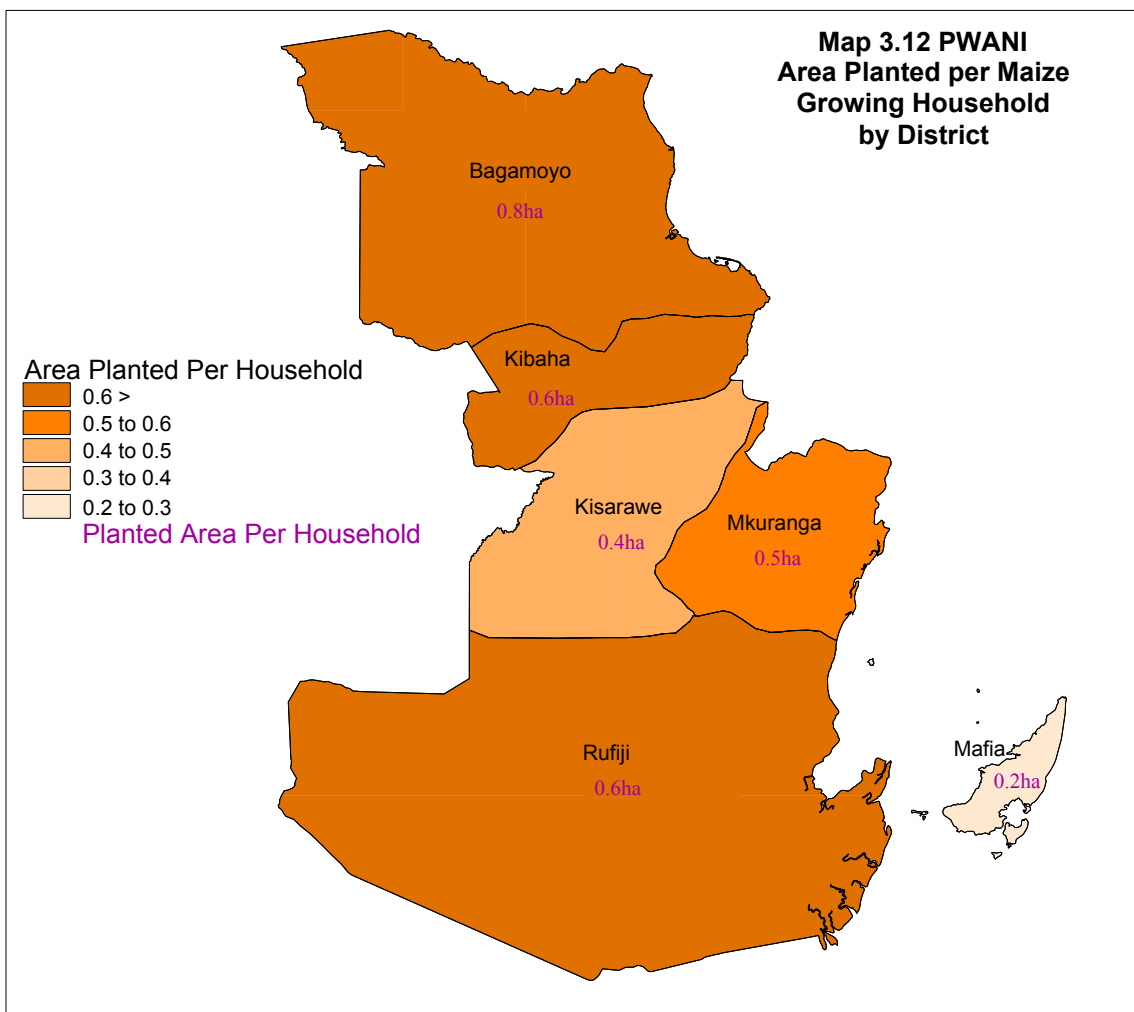
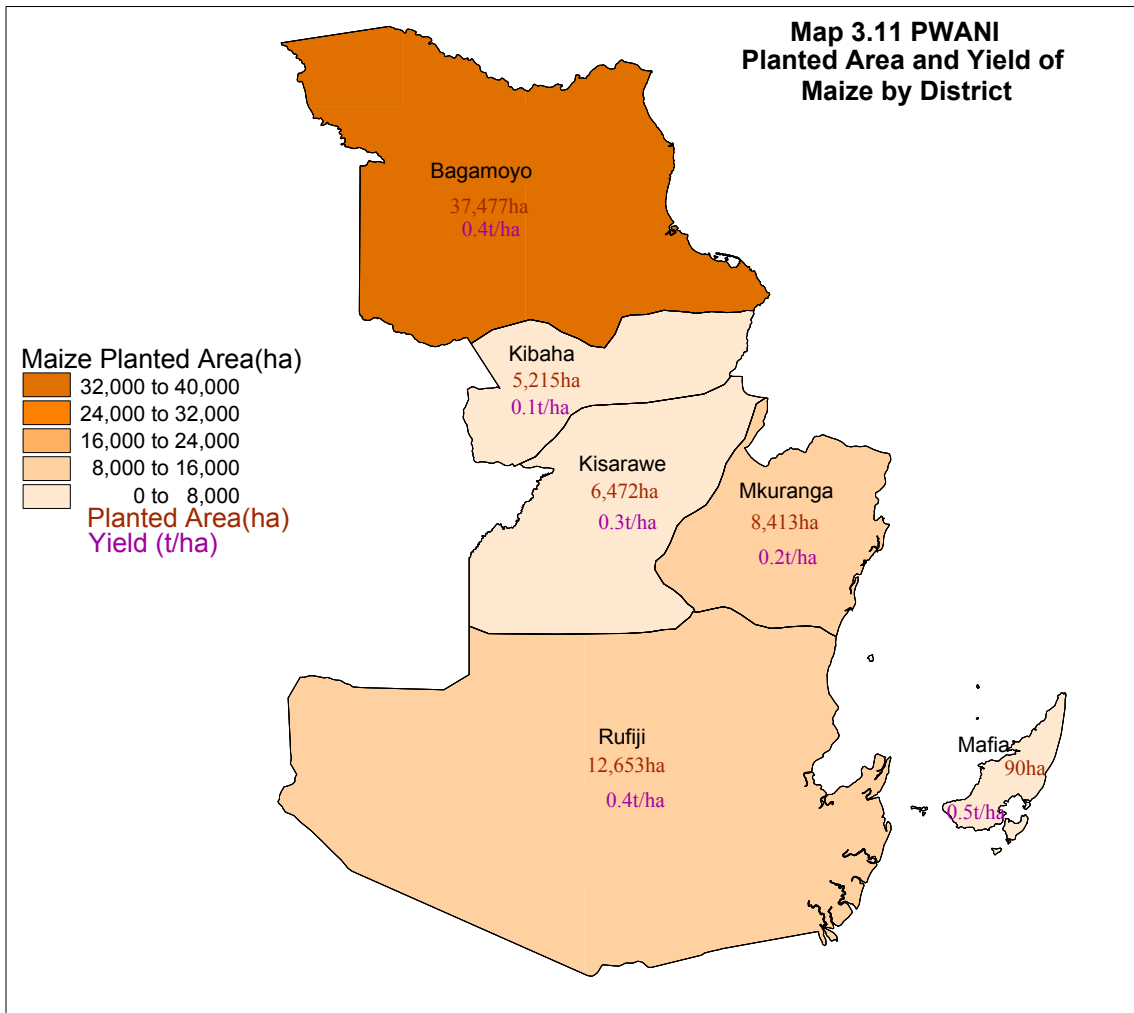
in 1995 to 0.6 t/ha in 2003) except for a one-year sharp increase from 1997/98 to 1998/99. (Chart 3.22).

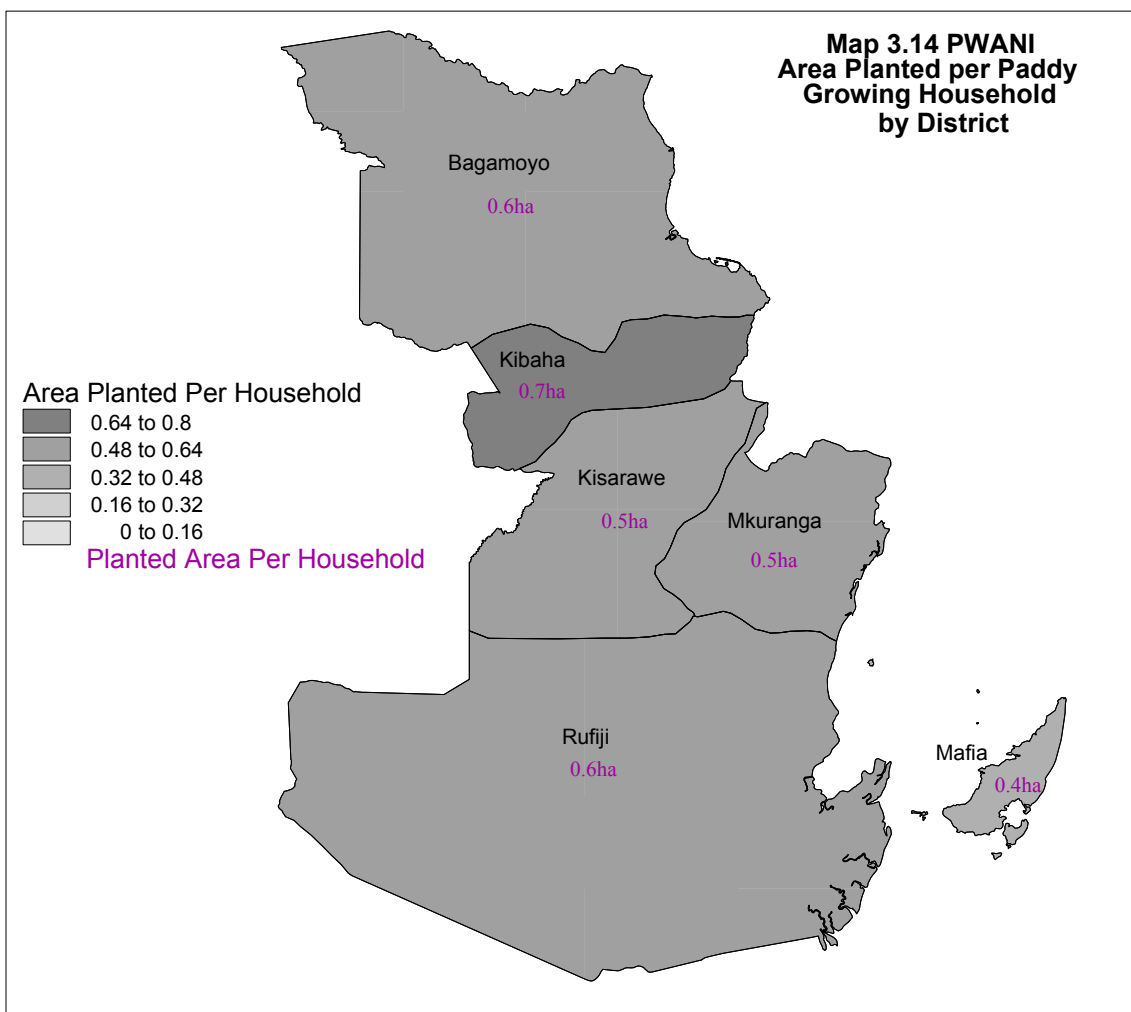
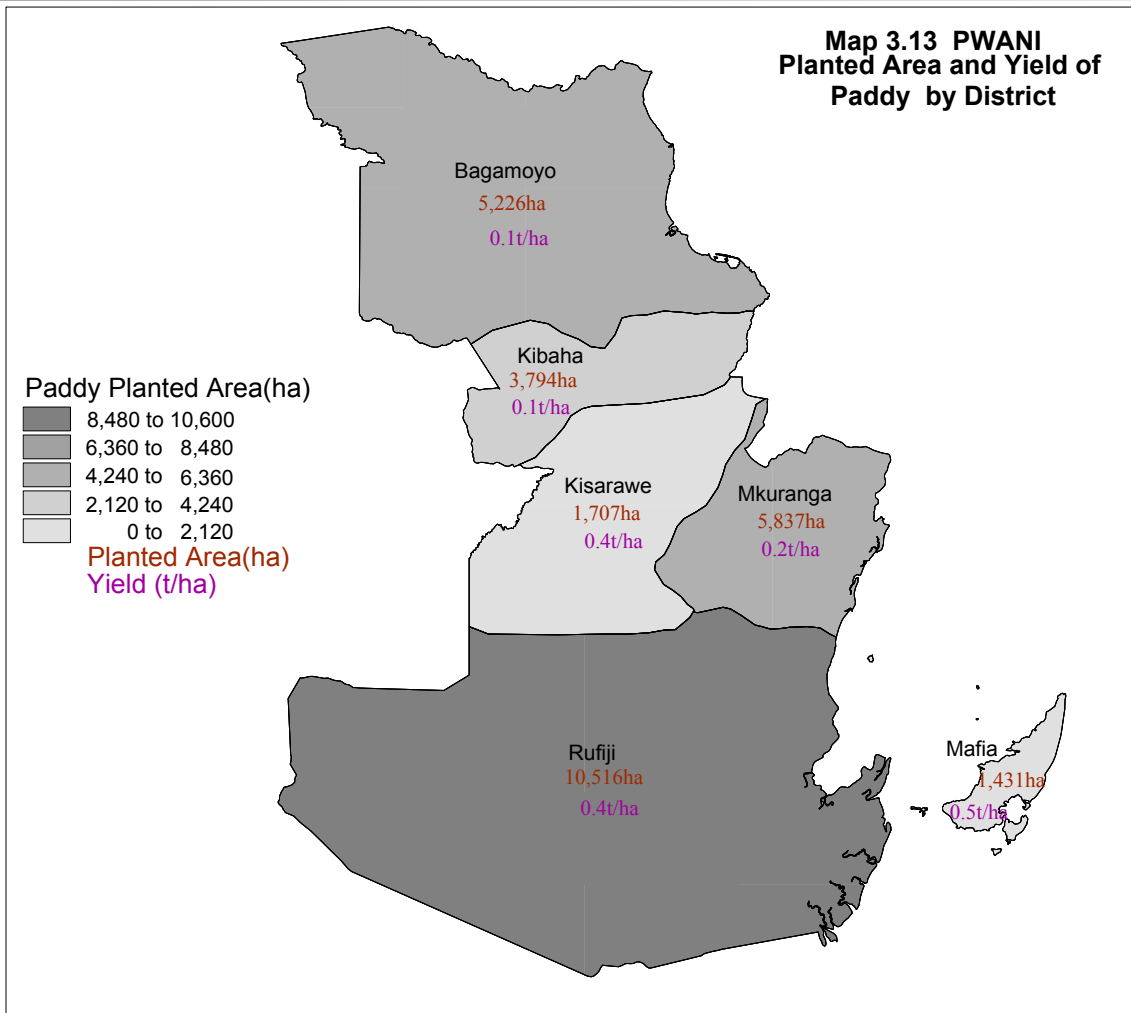
3.3.4.2 Paddy

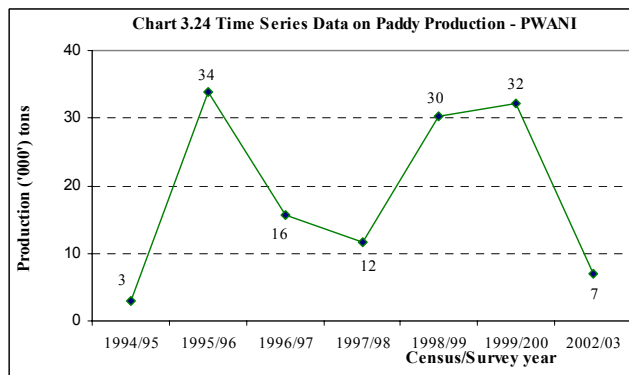
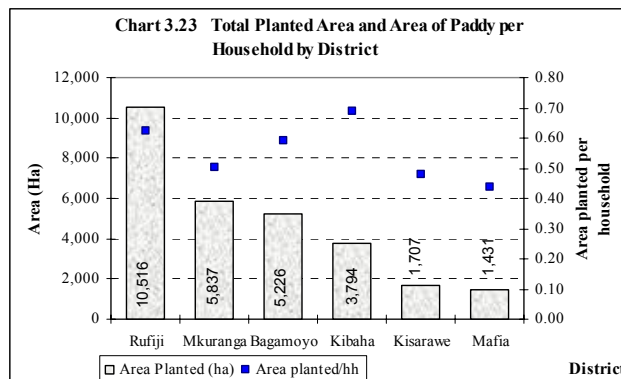
Paddy is the second most important cereal crop in the region in terms of planted area. The number of households that grew paddy in Pwani region during the long rainy season was 30,542. This represents 18 percent of the total crop growing households in Pwani region in the long rainy season. The total production of paddy was 7,062 tonnes from a planted area of 28,511 hectares resulting in a yield of 0.25 t/ha. The district with the



largest area planted with paddy was Rufiji (10,516 ha) followed by Mkuranga (5,837 ha), Bagamoyo (5,226 ha), Kibaha (3,794 ha) Kisarawe (1,707 ha), and Mafia (1,431 ha). (Map 3.13). There are small insignificant variations in the average area planted per crop growing household among the districts ranging from 0.44 ha in Mafia to 0.69 ha in Kibaha (Chart 3.23 and Map 3.14).

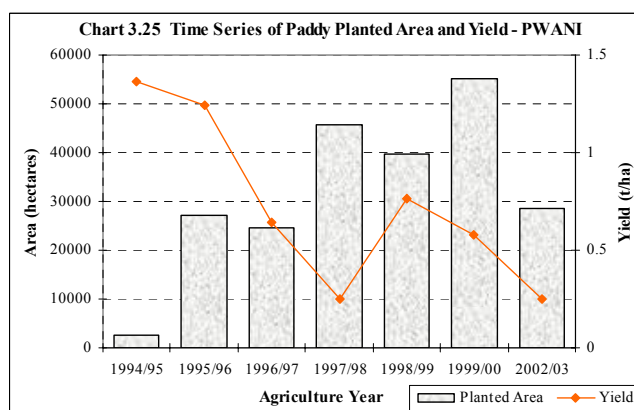






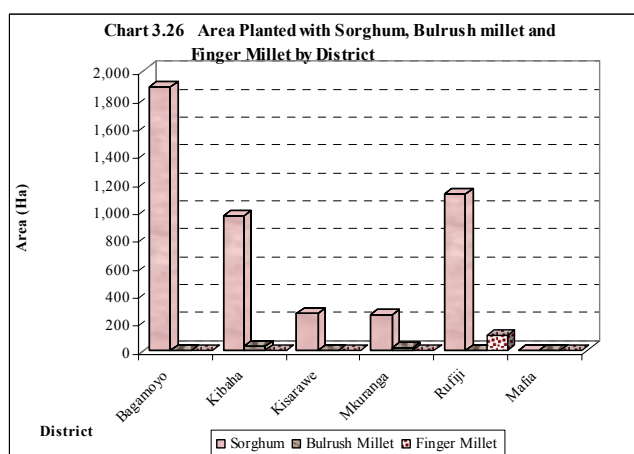
There was a sharp rise in the production of paddy in 1995/96 compared to 1994/95. The production rose from 3,000 tonnes in 1994/95 to 34,000 tonnes in 1995/96 after which it dropped to 16,000 tonnes in 1996/97 and to 12,000 tonnes in the following year. Thereafter the yield increased gradually to 32,000 tonnes in 1999/2000 and this was followed by another decline in 2002/03 to 7,000 tonnes.

Charts 3.23 and 3.25 show that, whilst the yield of paddy dropped dramatically over the 8-year period (1994/95 to 2002/2003), the quantity produced increased and this was due to a large increase in the planted area. The time series chart of paddy shows that the area planted with paddy remained constant over the period from 1995/96 to 1996/97 after which the area under production increased rapidly till year 1999/2000 then declined to 28,511 ha in 2003. The chart also shows that there was a general decline in yield over the period 1996 to 2003 (down to 0.7 t/ha) except for a one-year sharp increase from 1997/98 to 1998/99. (Chart 3.25).



3.3.4.3 Other Cereals

Other cereals were produced in small quantities. A small quantity of sorghum was produced in Bagamoyo (1887 ha), Rufiji (1,114), Kibaha (962 ha), Kisarawe (263 ha) and Mkuranga (247 ha). fingermillet was produced in Rufiji district only (101 ha) and bulrush millet was produced in Kibaha and Mkuranga districts (28 ha and 14 ha respectively) (Chart 3.26).



3.3.5 Roots and Tuber Crops Production

The total production of roots and tubers was 72,661 tonnes. Cassava production was the highest with a total production of 71,190 tonnes representing 98 percent of the total root and tuber crops production. This was followed by sweet potatoes with 1,408 tonnes (1.9%), Irish potatoes (41t, 0.1%) and yams (22t, 0.03%). (Table 3.3). The area planted

with cassava was larger than any other root and tuber crops and it was the most important crop in Pwani in terms of planted area (27.7% of the total area planted with annual crops and vegetables) and it accounted for 96.3 percent of the area planted with roots and tubers, followed by sweet potatoes (3.5%), yams (0.1%), and Irish potatoes (0.05%).

It is difficult to determine the total planted area and production for the short and long rainy seasons for roots and tubers as the total production of cassava is reported under the long rainy season. However, excluding cassava, 0.3 percent of the area planted with roots and tubers was during the short rainy season with sweet potatoes having 99 percent of its production in the short rainy season. While a very low percent of yams (1%) was produced during the short rainy season, a slightly higher percentage of Irish potatoes (1.8%) was produced during the long rainy season. The percentage of yams produced during the long rainy season was estimated at 4.6 percent.

There was a significant increase in area planted with cassava and sweet potatoes from 1994/95 to 2002/03. The areas for Irish potato and yams were insignificant.

The estimated yield was highest for Irish potatoes (1.71t/ha) and cassava (1.45 t/ha), followed by sweet potatoes (0.8 t/ha) and yams (0.32 t/ha).

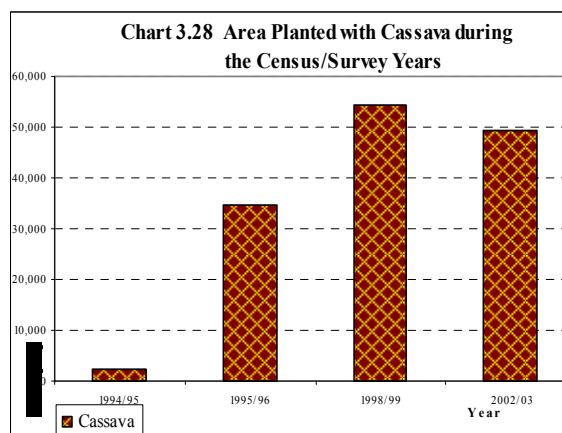
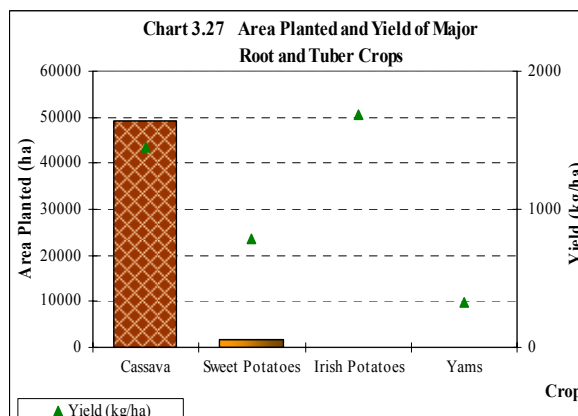
3.3.5.1 Cassava

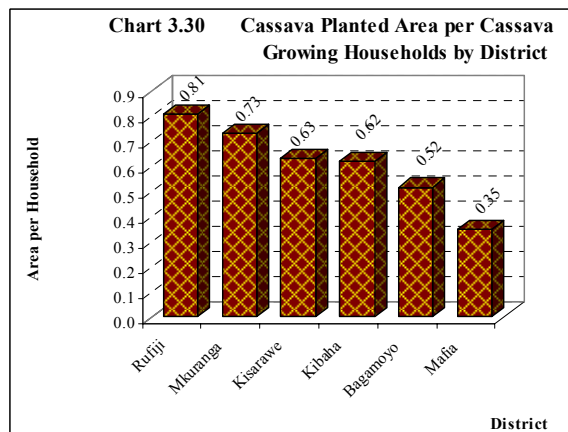
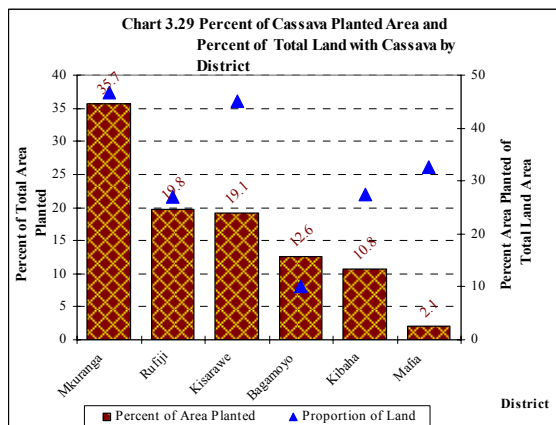
The number of households growing cassava in the region was 74,449. This represents 53 percent of the total crop growing households in the region. The total production of cassava during the census year was 71,190 tonnes from a planted area of 49,270 hectares resulting in a yield of 1.4 t/ha.

Table 3.3: Area, Production and Yield of Root and Tuber Crops by Season

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Cassava	4970	4837	973	44301	66353	1498	49270	71190	1445
Sweet Potatoes	521	637	1223	1275	771	605	1796	1408	784
Irish Potatoes	0	0	0	24	41	1688	24	41	1708
Yams	5	22	4199	62	0	0	67	22	328
TOTAL	5,496	5,496		45,662	67,165		51,158	72,661	

Note: Cassava is produced in both the long and short rainy season. However, it was not possible to separate cassava production in the different growing seasons as the growth period spans both seasons and even over a year in certain varieties. Because of this, cassava has been combined and is reported in the long rainy season only.





Previous censuses and surveys indicate that the area planted with cassava increased over the period 1996 to 1999. Since 1999 the area planted with cassava dropped from 54,196 ha to 49,270 ha (Chart 3.28). The area planted with cassava accounted for 27.7 percent of the total area planted with annual crops and vegetables in the census year.

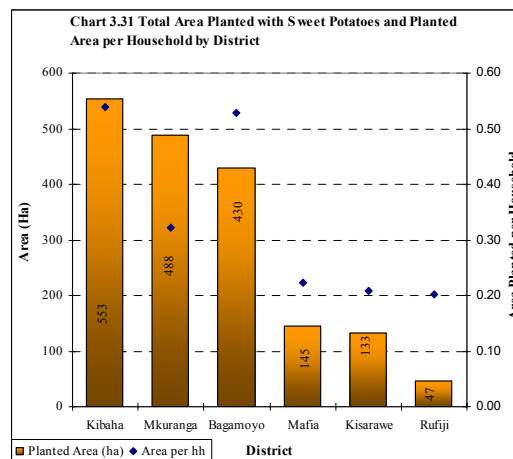
Mkuranga district had the largest planted area for cassava (17,569 ha, 36% of the cassava planted area in the region), followed by Rufiji (9761 ha, 20%), Kisarawe (9411 ha, 19%), Bagamoyo (6199 ha, 13%), Kibaha (5314 ha, 11%) and Mafia (1,015 ha, 2%) (Map 3.15). However, the highest proportion of land planted with cassava, expressed as a percent of the total land area was in Mkuranga district (46.8%). This was followed by Kisarawe (45%), Mafia (32.7%), Kibaha (27.6%), Rufiji (27.1%) and Bagamoyo (10.2%) (Chart 3.29).

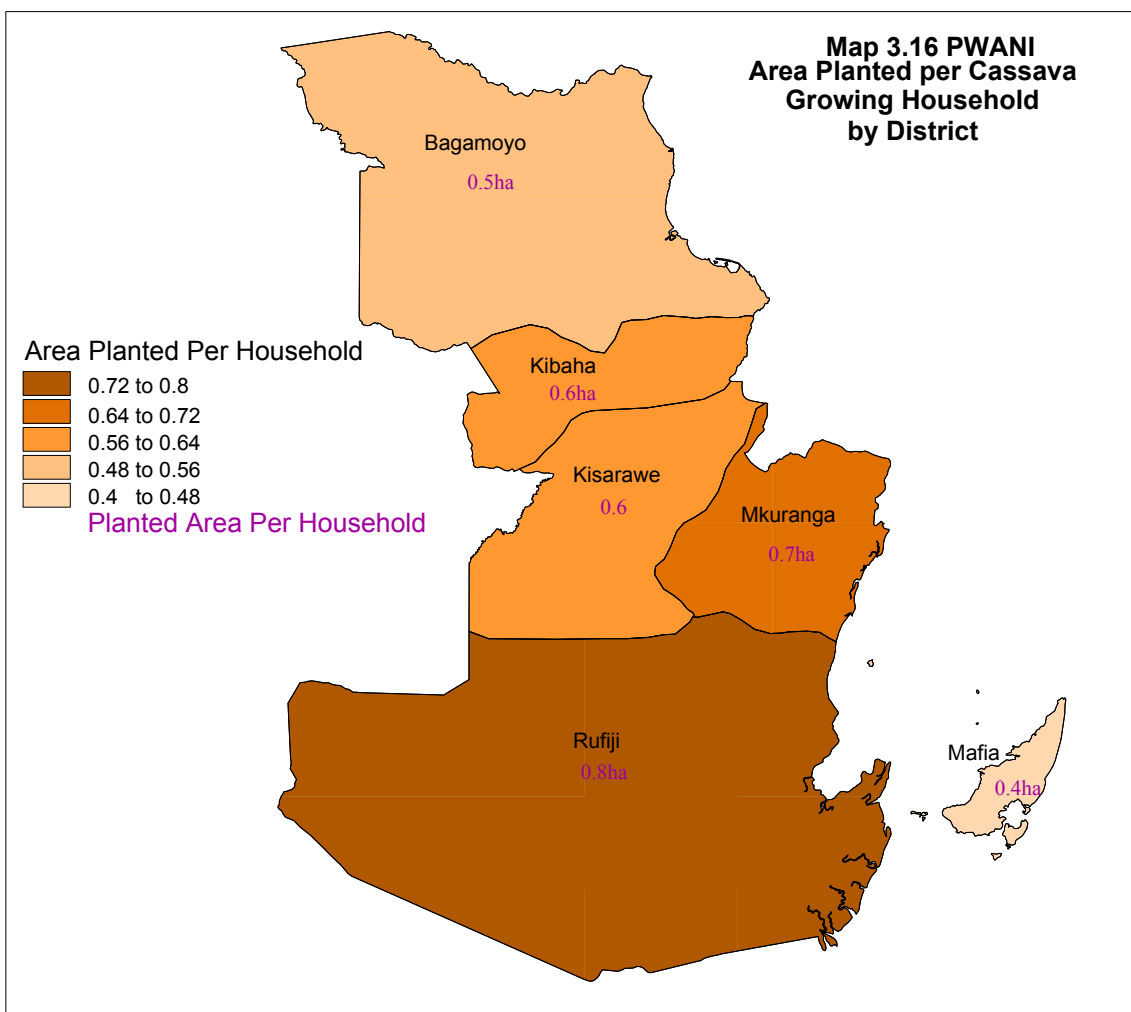
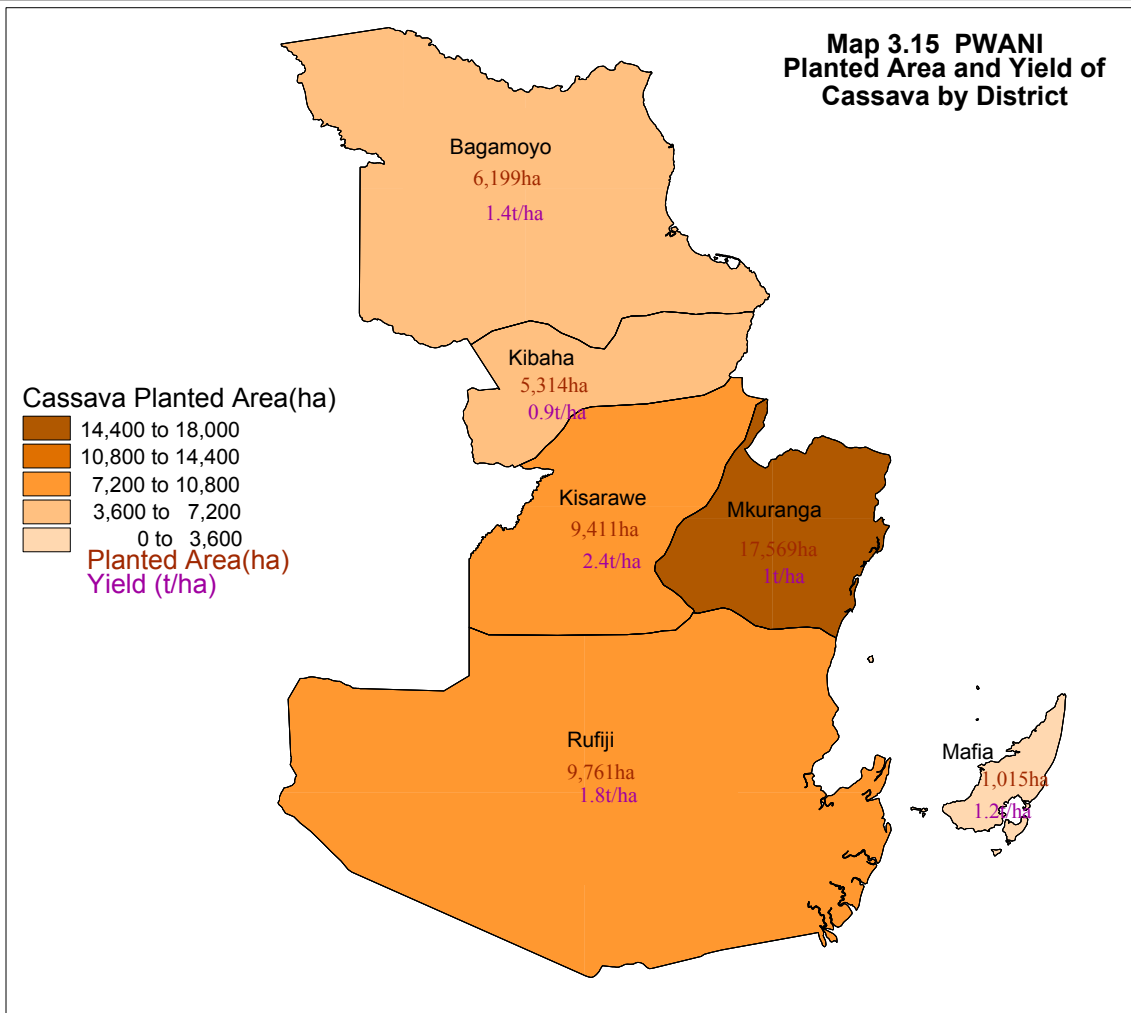
The average cassava planted area per cassava growing household was 0.7 hectares. However, there were small district variations. The area planted per cassava growing household was largest in Rufiji (0.8 ha). This was followed by Mkuranga (0.7 ha), Kisarawe (0.6 ha), Kibaha (0.6 ha), Bagamoyo (0.5 ha) and Mafia (0.4 ha) (Chart 3.30 and Map 3.16).

3.3.5.2 Sweet Potatoes

The number of households growing sweet potatoes in Pwani region was 4,872 (1,835 in the short rainy season and 3,036 in the long rainy season). This was 7.1 percent of the total root and tuber crop growing households during the long rainy season. The total production of sweet potatoes during the census year was 1,408 tonnes from a planted area of 1,796 hectares resulting in a yield of 0.8t/ha.

Kibaha district has the largest planted area for sweet potatoes (553 ha, 30.8%), followed by Mkuranga (488 ha, 27.2%), Bagamoyo (430 ha, 24%), Mafia (145 ha, 8.1%), Kisarawe (133 ha, 7.4%) and Rufiji (47 ha, 2.6%) (Chart 3.31). Other root and tuber crops were of minor importance in terms of area planted compared to cassava and sweet potatoes.





3.3.6 Pulse Crops Production

The total area planted with pulses was 17,552 hectares out of which 16,223 ha were planted with cowpeas (92.4 percent of the total area planted with pulses), followed by green gram (1,265 ha, 7.2%), beans (18 ha, 0.1%), mung beans (16 ha, 0.1%) and bambaranuts (15 ha, 0.1%).

Field peas crop was not cultivated in the region.

The area planted with pulses in the short rainy season was 12,039 ha which represented 68.6 percent of total area planted with pulses during the year. Cowpeas was the most dominant crop

during long rainy season with 5,167 ha (93.7 % of the total area planted with pulses in that particular season), followed only by green gram (345 ha, 6.3%). Other pulses were not grown during the long rainy season.

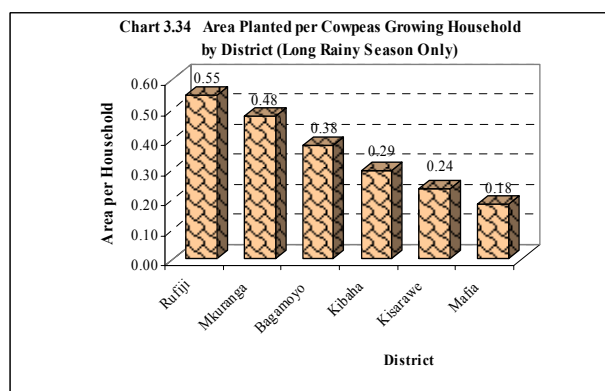
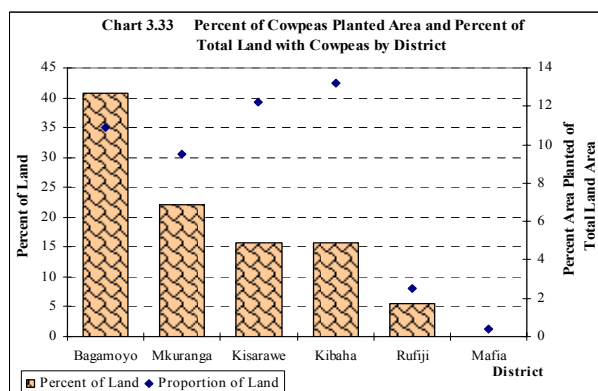
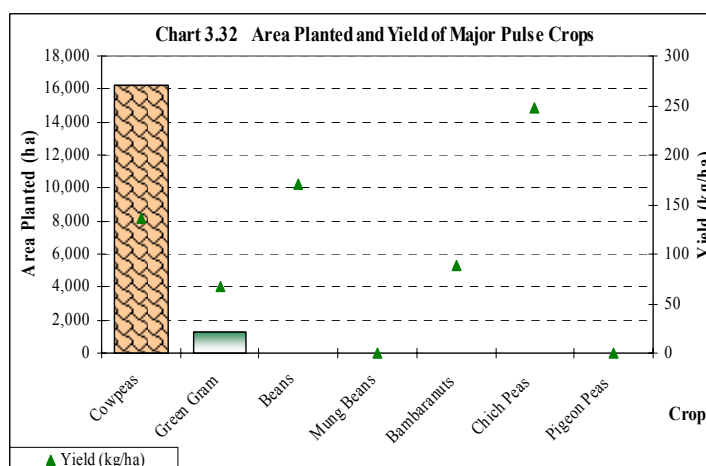
The total production of pulses was 2,299 tonnes. Cowpeas were the most cultivated crop producing 2,208 tonnes which accounted for 96 percent of the total pulse production. Hence almost all pulses were cowpeas. This was followed by green gram (84t, 3.7%), beans (3t, 0.1%), chick peas (2t, 0.1%) and bambaranuts (1t, 0.06%). Chick peas and beans had relatively higher yields of 247 and 171 kgs/ha respectively. The yields of the rest of the pulses in kilograms per hectare were cowpeas 136 kgs/ha, bambaranuts 89 kgs/ha and green gram 67 kgs/ha. Although mung beans and pigeon peas had areas planted, no harvests were recorded. (Chart 3.32).

3.3.6.1 Cowpeas

Cowpeas dominate the production of pulse crops in the region. The number of households growing cowpeas in Pwani region was 54,072. The total production of cowpeas in the region was 2,208 tonnes from a planted area of 16,223 hectares resulting in a yield of 0.1 t/ha.

Table 3.4: Area, Production and Yield of Pulses by Season

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Mung Beans	16	0	0	0	0	0	16	0	0
Beans	18	3	171	0	0	0	18	3	171
Cowpeas	11,056	1,681	152	5,167	527	102	16,223	2,208	136
Green Gram	920	59	64	345	25	73	1,265	84	67
Pigeon Peas	6	0	0	0	0	0	6	0	0
Chick peas	10	2	247	0	0	0	10	2	247
Bambaranuts	15	1	89	0	0	0	15	1	89
TOTAL	12,039	1,747	152	5,513	552	102	17,552	2,299	130



The largest area planted with cowpeas in the region was in Bagamoyo (6,622 ha, 40.8%) (Chart 3.33 and Map 3.17), however, the largest area planted with cowpeas per household was in Bagamoyo district (0.3 ha). The average area planted per household in the region during the long rainy season was 0.35 ha (Chart 3.34). With exception of Bagamoyo district, the variations in area planted with cowpeas for the rest of the districts were small ranging from 0.13 ha in Mafia district to 0.32 ha in Kibaha district (Map 3.18).

In Pwani region, almost all pulses (96%) are cowpeas hence in these charts the time series data for cowpeas are represented by the time series for pulses which are available over a range of years. Other types of pulses are insignificant both in planted area and production rendering cowpeas highly significant for pulses over same range of years.

Cowpeas (pulses) production increased rapidly over the period 1996 to 1999 from 800 tonnes in 1996 to 34,700 tonnes in 1999, then dropped drastically to about 2,200 tons in 2003. (Chart 3.35).

Charts 3.35 and 3.36 show that within the period of those 7 years, the trend for yield of cowpeas was similar to that of production trend but was dropping gradually from its peak of 1.3t/ha in 1998 to 1t/ha in 2003. The quantity produced decreased due to a decrease in the area under production. (Chart 3.36).

3.3.7 Oil Seed Production

The total production of oilseed crops was 448 tonnes planted on an area of 2,920 hectares. The total planted area of oilseeds in the long rainy season was 2,552 ha representing 87.4 percent of the total area planted with oil seeds.

Simsim was the most important oilseed crop with 2,552 ha (87.4% of the total area planted with oil seeds), followed by groundnuts 11.7%), sunflower (0.7%) and soya beans (0.2%) (Chart 3.37). The yield of sunflower was moderate (449 kg/ha). Groundnuts had a yield of 316 kg/ha and simsim 129 kg/ha.

In terms of production, simsim was 330 tonnes and accounted for 73.7 percent of the total production of oil seeds, followed by groundnuts (24%), sunflower (2%) and none for soya beans.

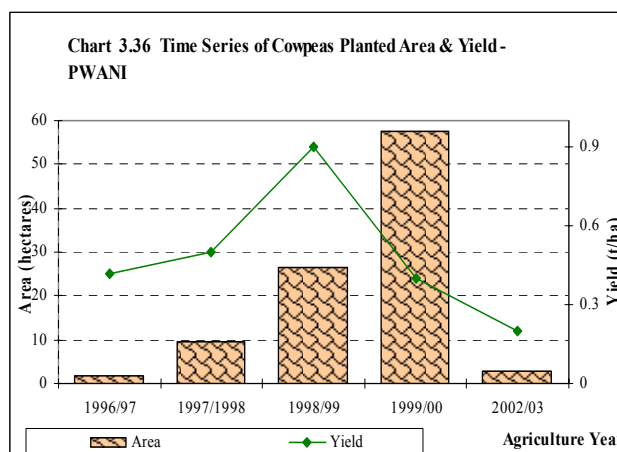
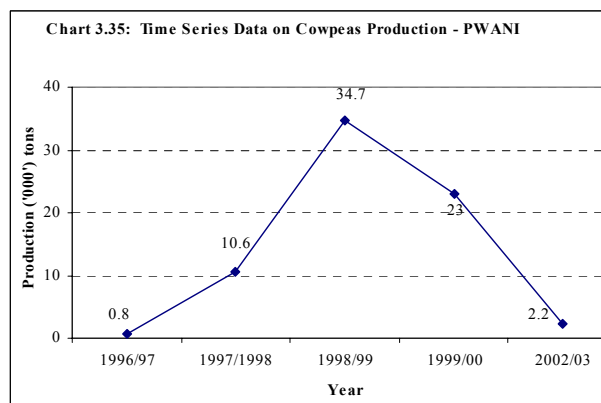
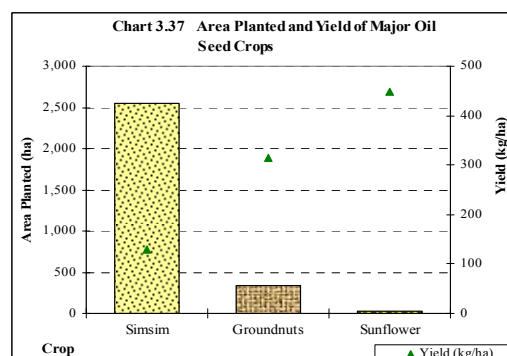
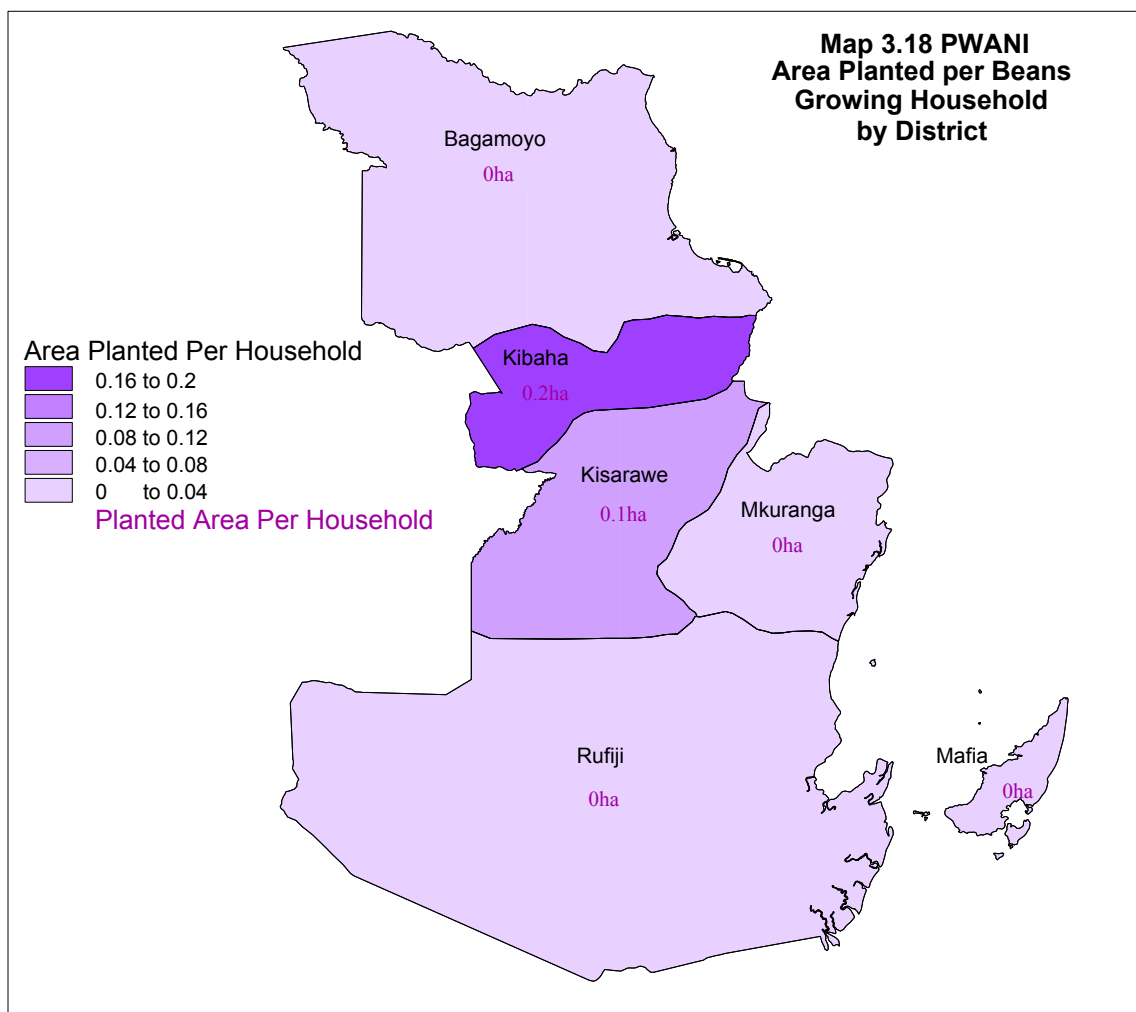
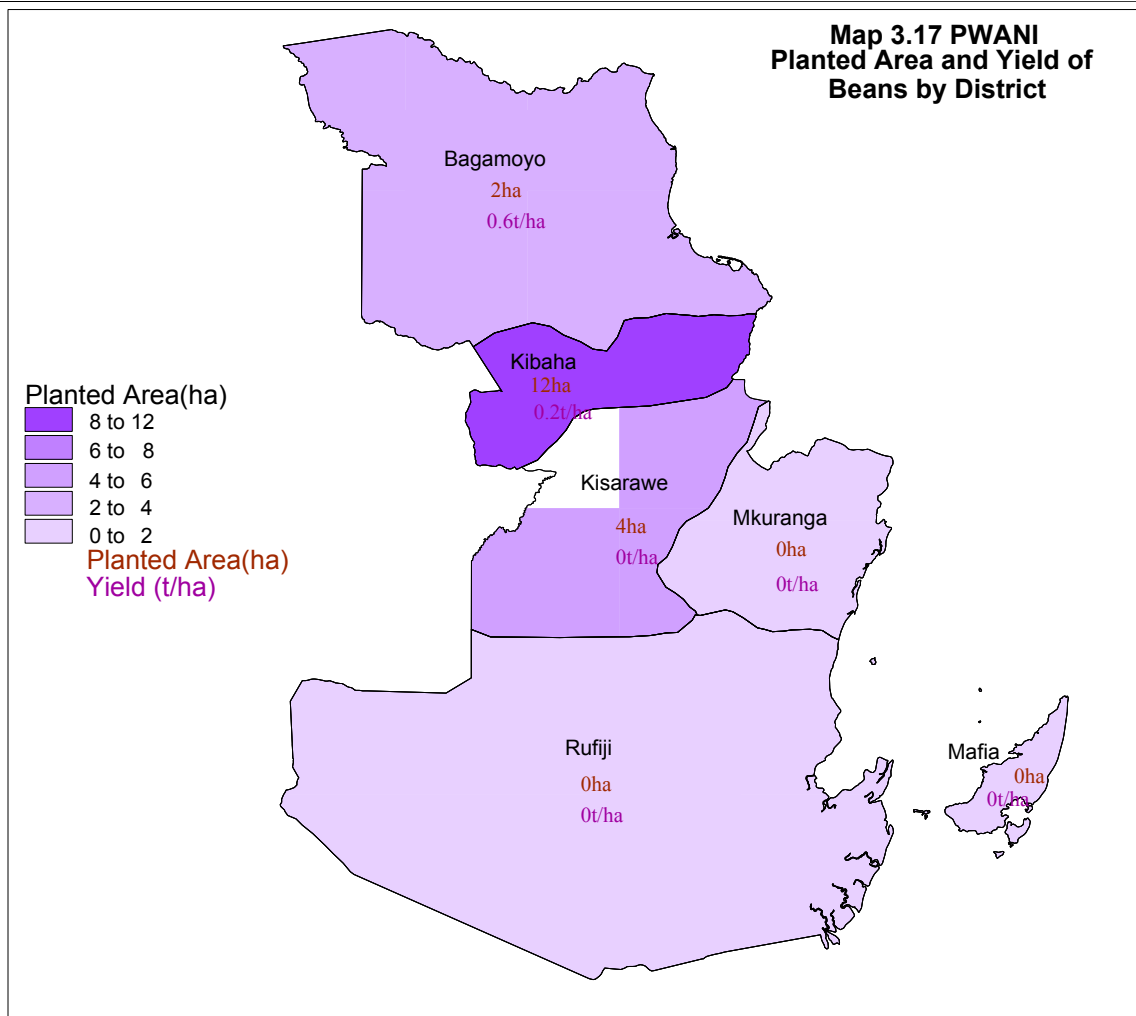


Table 3.5: Area, Quantity Harvested and Yield of Oil Seed Crops by Season

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Sunflower	0	0	0	21	10	0	21	10	476
Simsim	166	18	109	2,386	312	0	2,552	330	129
Groundnuts	202	95	470	140	13	92	342	108	316
Soya Beans	0	0	0	5	0	0	5	0	0
Total	368	113	X	2,552	335	X	2,920	448	X

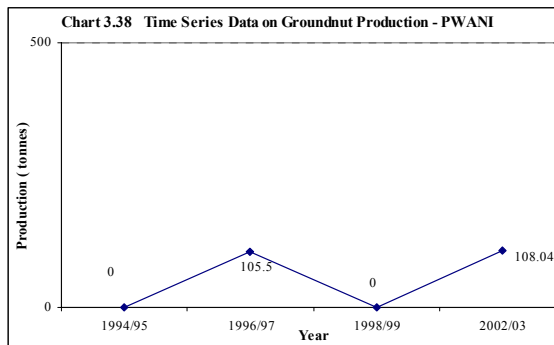




3.3.7.1 Groundnuts

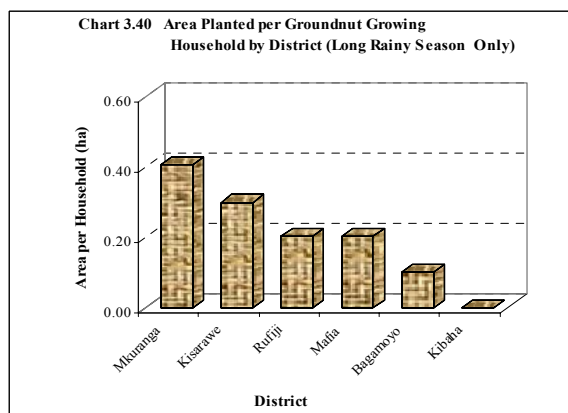
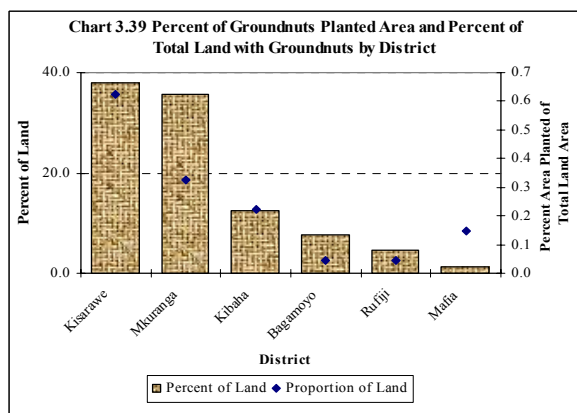
Groundnuts was the second most important oilseed crop in Pwani region. The number of households growing groundnuts was only 1,557. The total production of groundnuts in the region was 108 tonnes from a planted area of 342 hectares resulting in a yield of 0.3 t/ha.

There has been a moderate increase in production of groundnuts over the period 1996 to 2003, from 105.5 tonnes in 1996/97 to 108.04 tonnes in 2002/03. (Chart 3.38).



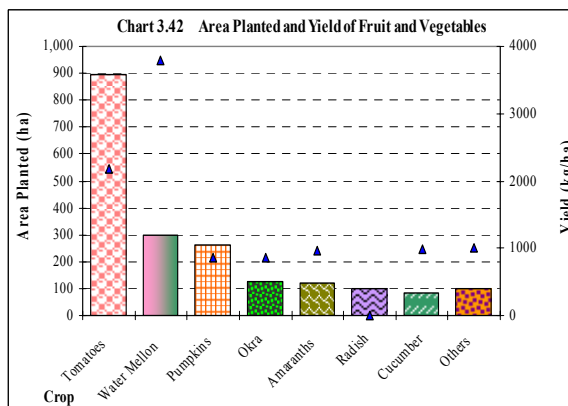
Thirty eight percent of the area planted with groundnuts was located in Kisarawe district (130 ha, 38%) followed by Mkuranga (122 ha, 35.7%), Kibaha (43 ha, 12.5%), Bagamoyo (26 ha, 7.7%), Rufiji (16 ha, 4.7%) and Mafia (5 ha, 1.3%). (Map 3.19). The highest proportion of land with groundnuts was found in Kisarawe followed by Mkuranga, Kibaha, Mafia, Rufiji and Bagamoyo (Chart 3.39 and Map 3.20).

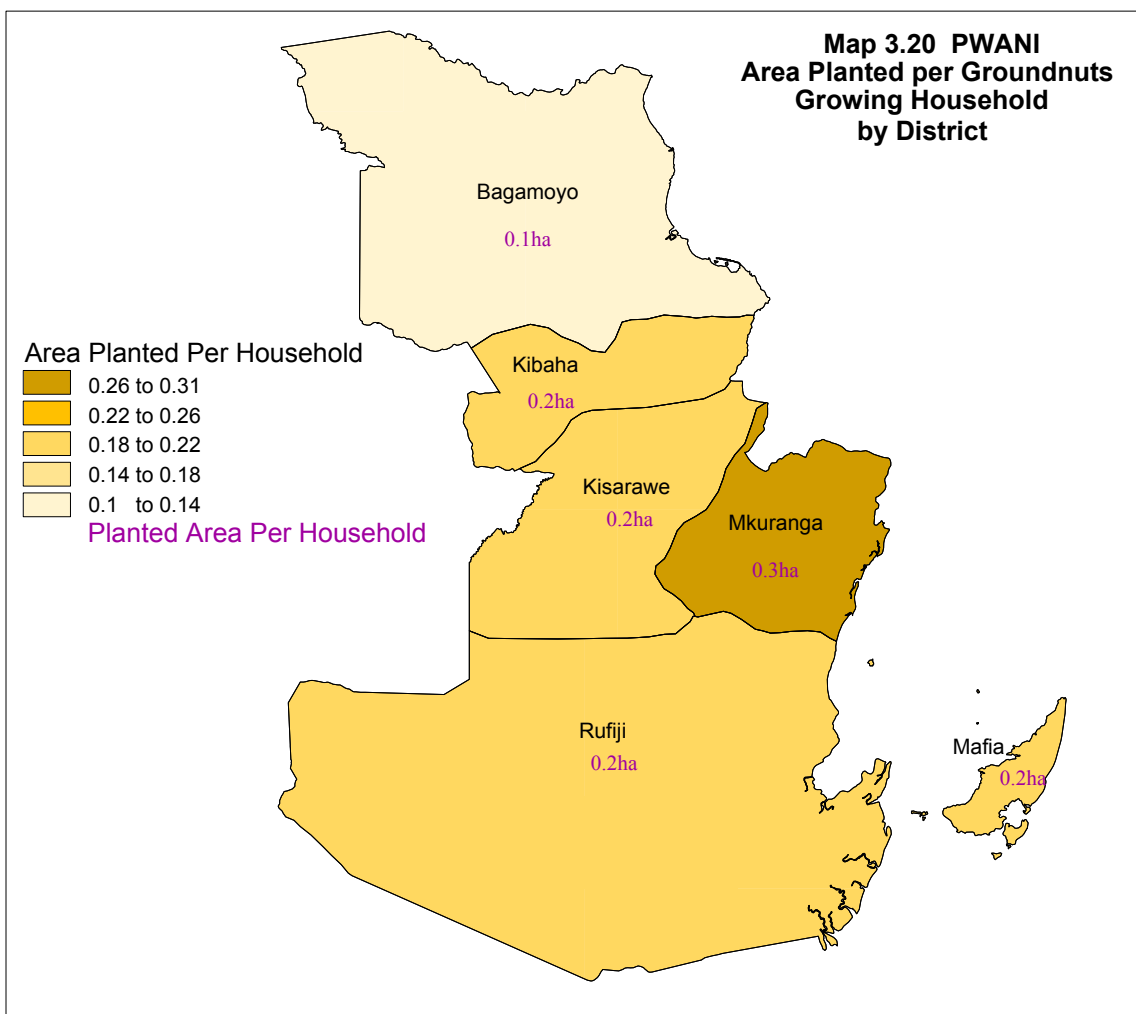
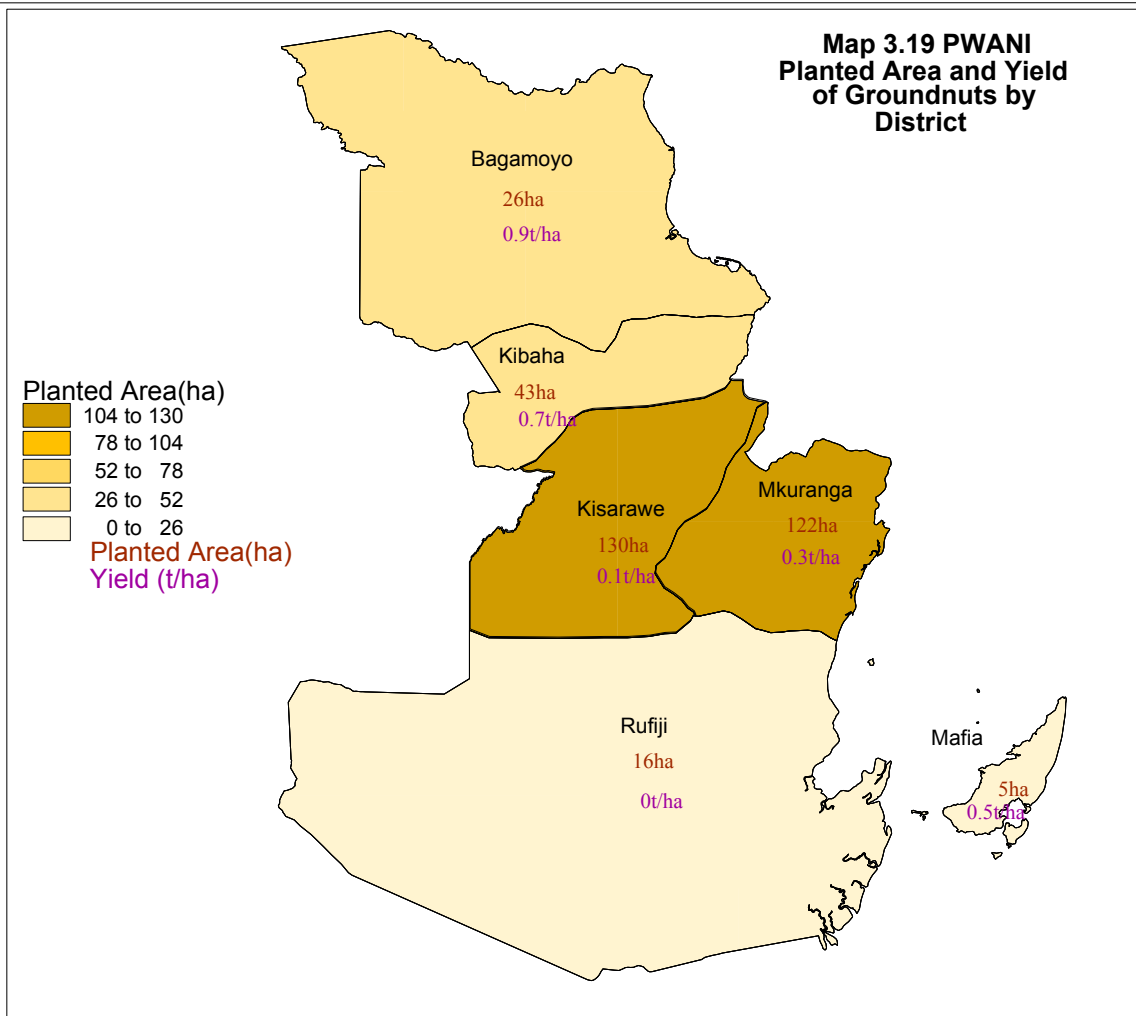
The largest area planted per groundnut growing household was found in Mkuranga district (0.4 ha) and the lowest was in Bagamoyo (0.1). In Kibaha no groundnuts were grown in the long rainy season; otherwise, the range between the district with the highest and the lowest area planted per household depicts small variations in area planted among the districts (Chart 3.40).



3.3.8 Fruits and Vegetables

The collection of fruit and vegetables production data was difficult due to the small quantities produced per household. Most of the data presented here gives the production of smallholders who grew these crops as cash crops and not merely for household consumption. Most fruit production is from permanent crops and only water melon is reported as an annual crop in this section. The short rainy season is relatively important for fruit and vegetables production since 52.7 percent of the total area planted with fruit and vegetables was during the short rainy season. For chillies, onions, spinach, okra, amaranths, cucumber and water melon





over 60 percent of the planted area of each crop was during the short rainy season. The planted areas for radish and egg plant in the long rainy season were abnormally large (100% of the total planted area was in the long rainy season). Reliable historical data for time series analysis of fruit and vegetables were not available.

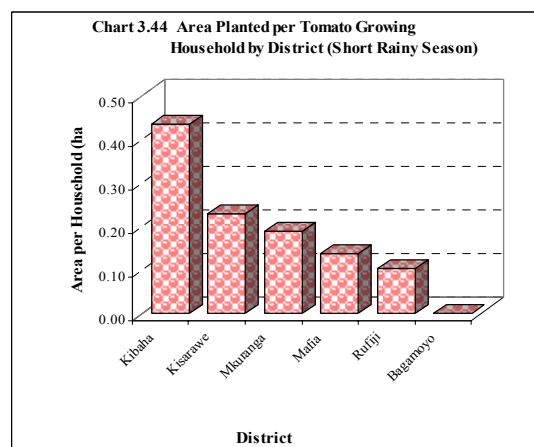
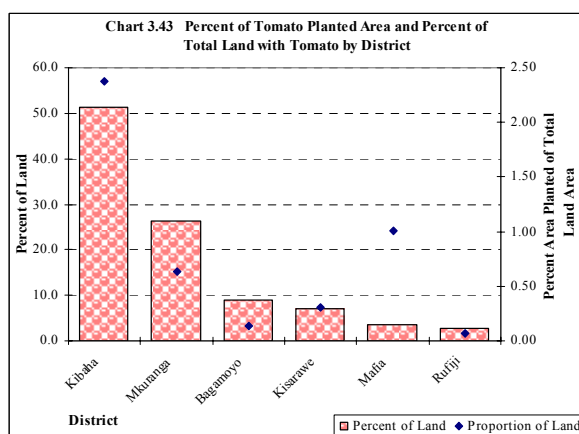
The total production of fruits and vegetables was 3,682 tonnes. The most cultivated fruit and vegetable crop was the tomato with a production of 1,944 tonnes (53% of the total fruit and vegetables produced) followed by water melon (1,124t, 31%) pumpkins (225t, 5%) and amaranths (115t, 3%). The production of the other fruits and vegetables crops was relatively small. (Table 3.6).

The yield of water melon was 3,787 kg/ha, egg plant (3,073 kg/ha), tomatoes (2,172 kg/ha), okra (852 kg/ha), cucumber (989 kg/ha) and spinach (218 kg/ha). (Chart 3.42).

3.3.8.1 Tomatoes

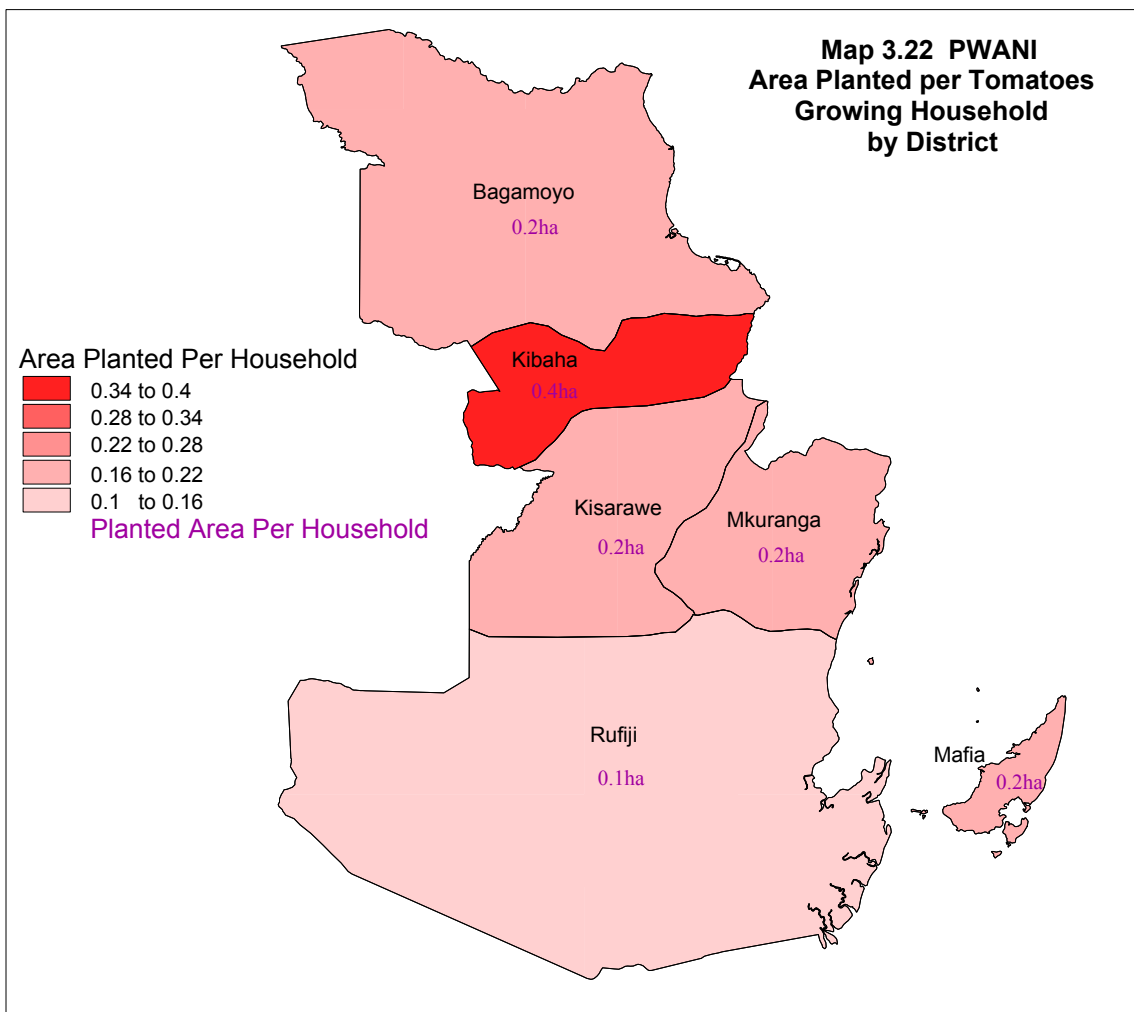
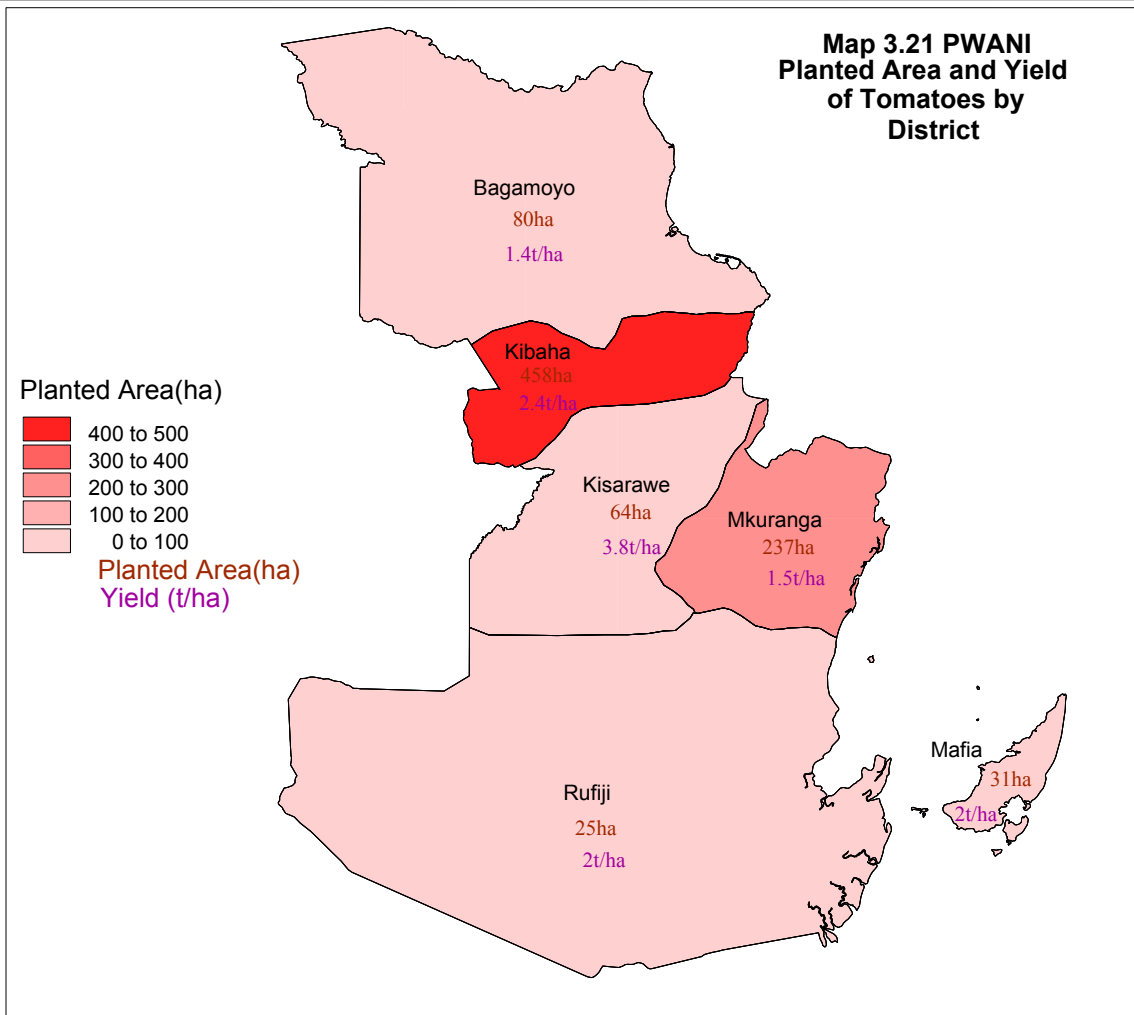
The number of households growing tomatoes in the region during the long rainy season was 1,486 and 1,815 households in the short rainy season. This represented 2.1 percent of the total crop growing households in the region during the long rainy season and 1.9 percent during the short rainy season.

Kibaha district had the largest planted area for tomatoes (51.2% of the total area planted with tomatoes in the region), followed by Mkuranga (26.4%), Bagamoyo (8.9%), Kisarawe (7.1%), Mafia (3.5%) and Rufiji (2.8%) (Map 3.21).



The highest proportion of land with tomatoes was in Kibaha, followed by Mkuranga district. The rest of the districts have relatively low percentage of land used for tomato production (Chart 3.43). The largest area planted per tomato growing household was found in Kibaha district (0.43 ha) followed by Kisarawe (0.23 ha), Mkuranga (0.19 ha), Mafia (0.14 ha), Rufiji (0.10 ha) and none for Bagamoyo. (Chart 3.44 and Map 3.22). The total area planted with

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Okra	98	35	353	28	73	2,585	126	107	852
Radish	0	0	0	101	0	0	101	0	0
Onions	22	15	697	2	4	1,976	24	19	800
Cabbage	13	0	0	13	19	1,506	26	19	729
Tomatoes	404	840	2,077	491	1,104	2,250	895	1,944	2,172
Spinach	24	2	93	6	4	726	30	6	218
Chillies	6	1	222	0	0	0	6	1	222
Amaranths	84	79	943	36	35	979	120	115	954
Pumpkins	155	80	517	109	145	1,328	264	225	853
Cucumber	57	45	794	29	39	1,378	86	85	989
Egg Plant	0	0	0	12	37	3,073	12	37	3,073
Water Mellon	183	921	5027	114	203	1,785	297	1,124	3,787
Total	1,046	2,019		940	1,664		1,987	3,682	

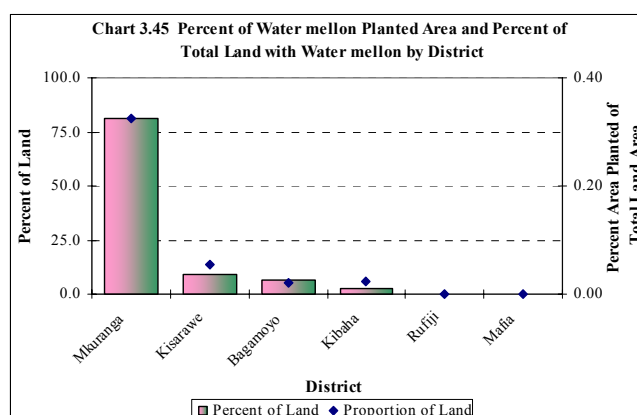


tomatoes accounted for 0.5 percent of the total area planted with annual crops and vegetables during the short and long rainy seasons.

3.3.8.2 Water Mellon

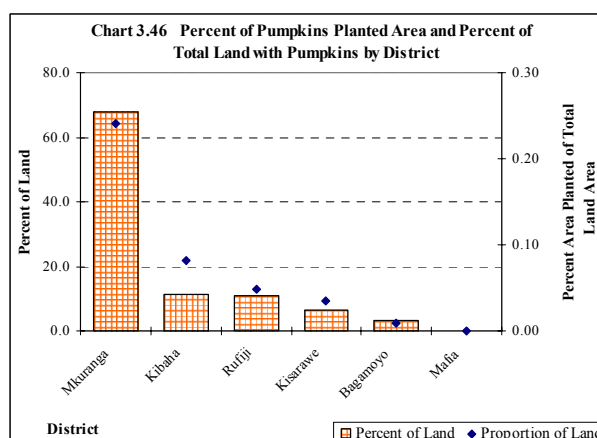
The number of households growing water melloon in the region during the long rainy season was 246 and 794 in the short rainy season. This represented 0.35 percent of the total crop growing households in the region in the long rainy season and 0.84 percent in the short rainy season.

Mkuranga district had the largest planted area for water melloon (242 ha, 81.5% of the total area planted with water melloon in the region), followed by Kisarawe (27 ha, 9.1%), Bagamoyo (20 ha, 6.7%), Kibaha (8 ha, 2.7%) and none for Rufiji and Mafia (Chart 3.45). The total area planted with water melloon accounted for 0.17 percent of the total area planted with annual crops and vegetables during the short and long rainy seasons.



3.3.8.3 Pumpkins

The number of households growing pumpkins in the region during the long rainy season was 436 households and 1,007 in the short rainy season. This represents 0.62 percent of the total crop growing households in the region in the long rainy season and 1.05 percent in the short rainy season. Mkuranga district had the largest planted area for pumpkins (179 ha, 67.8% of the total area planted with pumpkins in the region), followed by Kibaha (30 ha, 11.4%), Rufiji (29 ha, 11%), Kisarawe (17ha, 6.4%) and Bagamoyo (9 ha, 3.4%) districts. Pumpkins were not produced in Mafia district. The largest proportion of the area planted with pumpkins was found in Mkuranga district (0.24%), followed by Kibaha (0.08%), Rufiji (0.05%), Kisarawe (0.03%) and Bagamoyo (0.01) (Chart 3.46).



The total area planted with pumpkins accounted for 0.15 percent of the total area planted with annual crops and vegetables during the short and long rainy seasons.

Table 3.7: Area, Production and Yield of Annual Cash Crops by Season

Crop	Short Rainy Season			Long Rainy Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)
Seaweed	171	180	1,055	183	188	0	354	368	1,039
Cotton	82	0	0	59	117	1,976	141	117	832
TOTAL	252	180		243	305		495	485	

3.3.9 Other Annual Crops Production

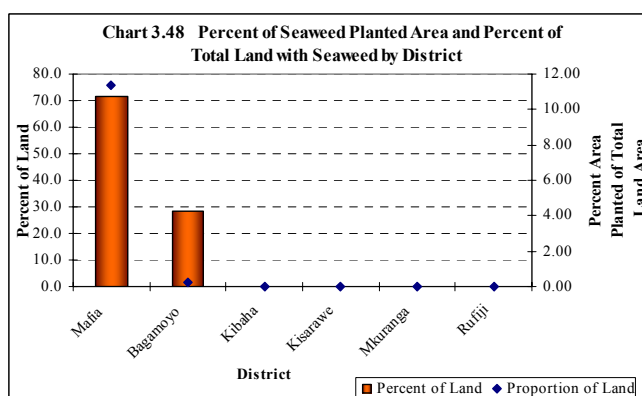
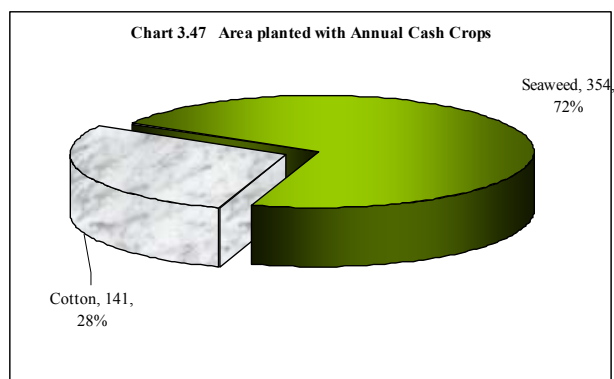
Most of the other annual crops are cash crops. An area of 495ha was planted with other annual crops and seaweed was the most prominent crop followed by cotton. The area planted with annual cash crops in short rainy season was 252 ha which represented 50.9 percent of the total area planted with other annual cash crops in short and long rainy season.

3.3.9.1 Cotton

Only 117 tonnes of cotton were produced in Pwani Region on a planted area of 141 ha. All production was during the long rainy season only. The crop was grown in Bagamoyo district only (Map 3.23) and an average of 0.5 ha was grown per household (Map 3.24).

3.3.9.2 Seaweed

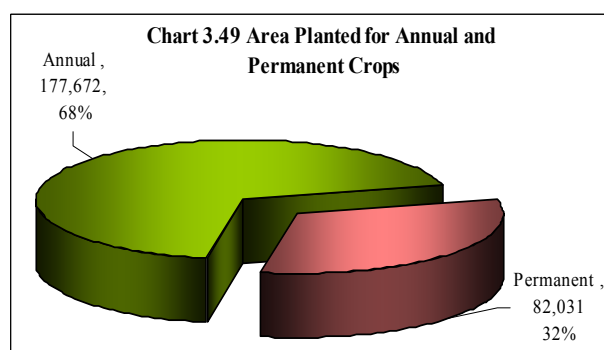
The quantity of seaweed produced was 368 tonnes. Seaweed had a planted area of 354 ha, most of which was planted in the long rainy season. Seaweed production was concentrated in 2 districts only, with Mafia having the largest planted area (72% of total area planted with seaweed in the region), followed by Bagamoyo (28%). (Chart 3.48) (Map 3.29 and 3.30).

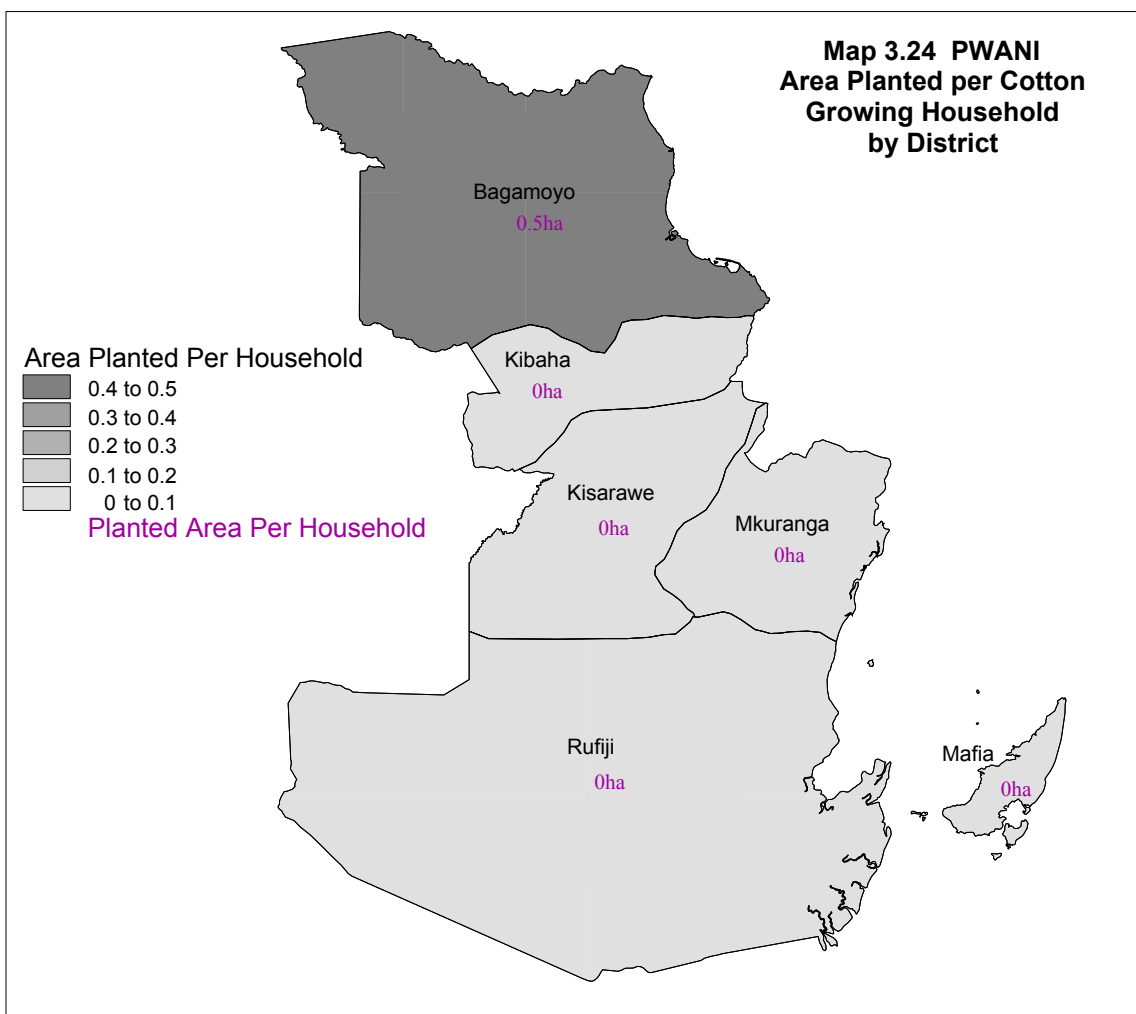
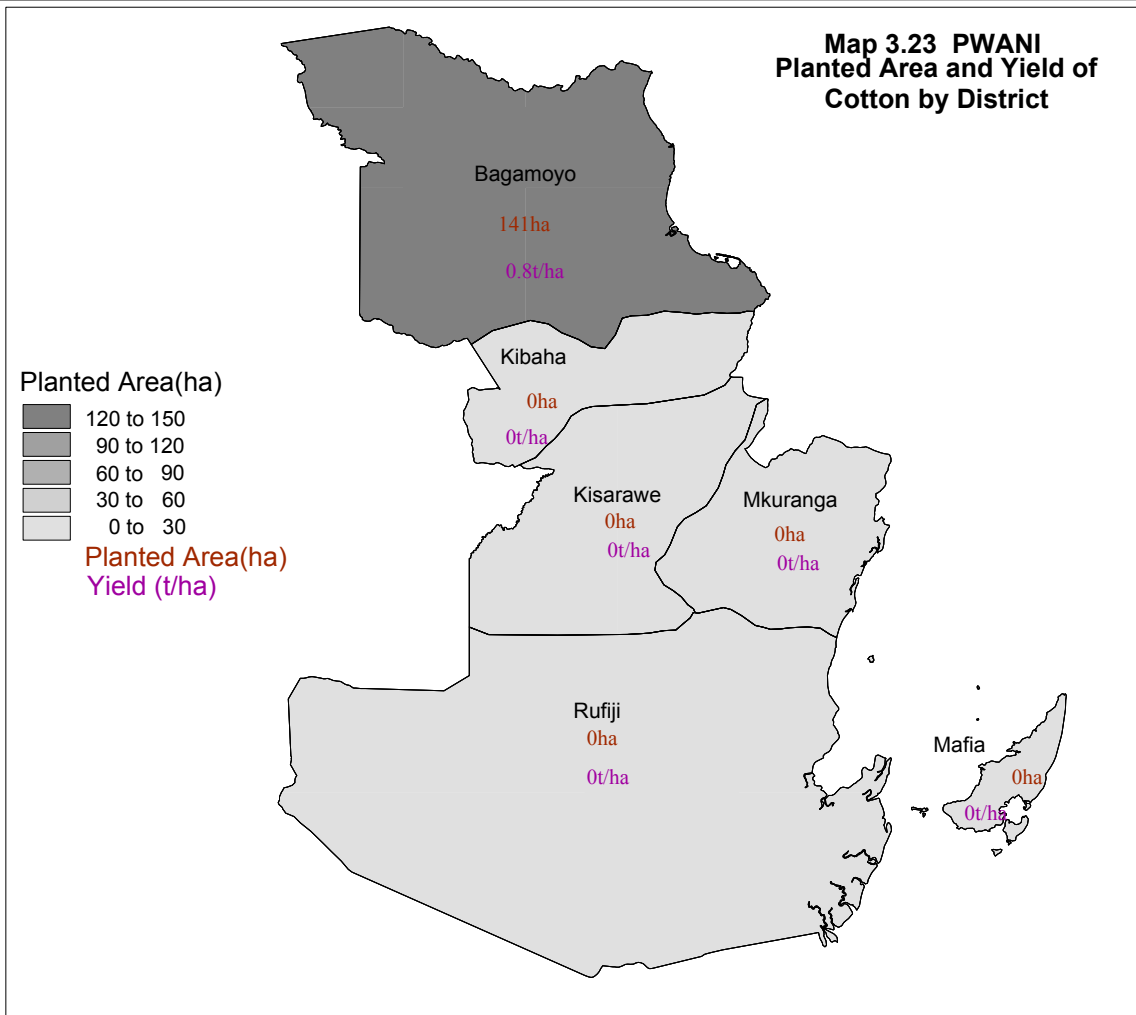


3.4 Permanent Crops

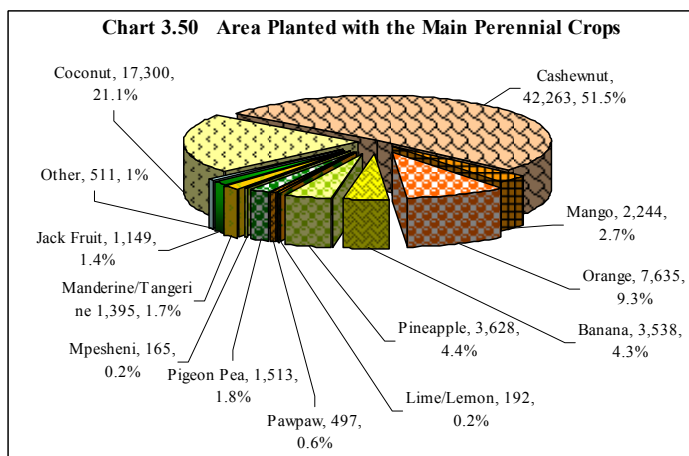
Permanent crops (sometimes referred to as perennial crops) are crops that normally take over a year to mature and once mature can be harvested for a number of years. For most crops, it is easy to determine if they are annual or permanent. However, for crops like cassava and bananas the distinction is not so clear. Cassava has varieties that mature within a year and produce only one harvest, whilst other varieties survive for more than one year and produce several harvests. In this census, cassava is treated as an annual crop. Conversely, bananas normally take less than a year to mature, survive for more than one year and are thus treated as a permanent crop. In this report the agriculture census results are presented for the most important permanent crops in terms of production, yield and area planted. Previous censuses and surveys did not measure these variables for permanent crops, therefore no time series analysis is made in this section.

The area of smallholders planted with permanent crops was 82,031 hectares (32% of the total area planted with crops in the region). However, the area planted with annual crops is not the actual physical land area as it includes the area planted if crops planted more than once on it, whilst the planted area for permanent crops is the same as physical planted land area. So the percentage physical area planted with permanent crops could be higher than indicated in Chart 3.49.

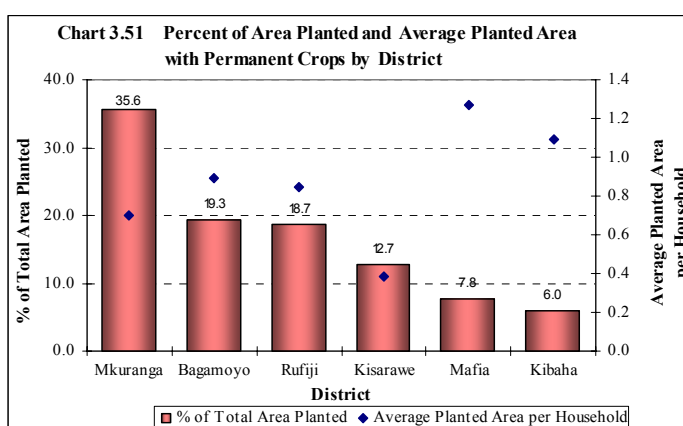




The most important permanent crop in Pwani region is the cashewnut which had a planted area of 42,263 ha, (51.5% of the planted area of all permanent crops) followed by coconuts (17,300 ha, 21.1%), oranges (7,635 ha, 9.3%), pineapples (3,628 ha, 4.4%), banana (3,538 ha, 4.3%) and mango 2,244 ha, 2.7%). Each of the remaining permanent crops had an area of less than 2 percent of the total area planted with permanent crops (Chart 3.50).

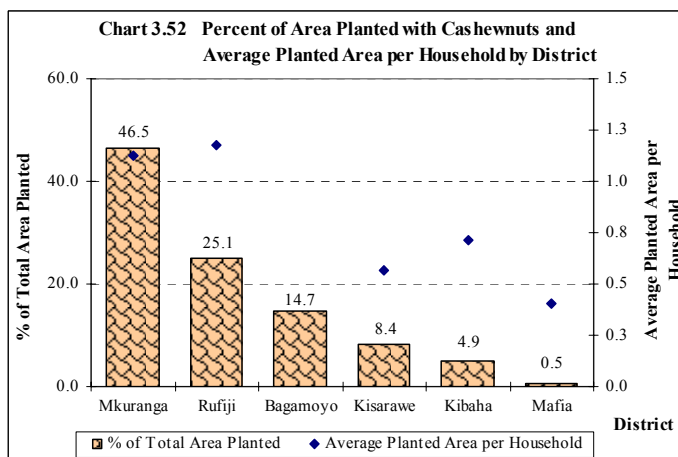


Mkuranga district had the largest area under smallholder permanent crops (29,168 ha, 36%). This is followed by Bagamoyo (15,810 ha, 19%), Rufiji (15,378 ha, 19%), Kisarawe (10,389 ha, 13%), Mafia (6,390 ha, 8%) and Kibaha (4,896 ha, 6%). However, Mafia had the largest area per permanent crop growing household (1.3 ha) followed by Kibaha (1.1 ha), Bagamoyo (0.9 ha), Rufiji (0.8 ha), Mkuranga (0.7 ha) and Kisarawe (0.4 ha) (Chart 3.51).

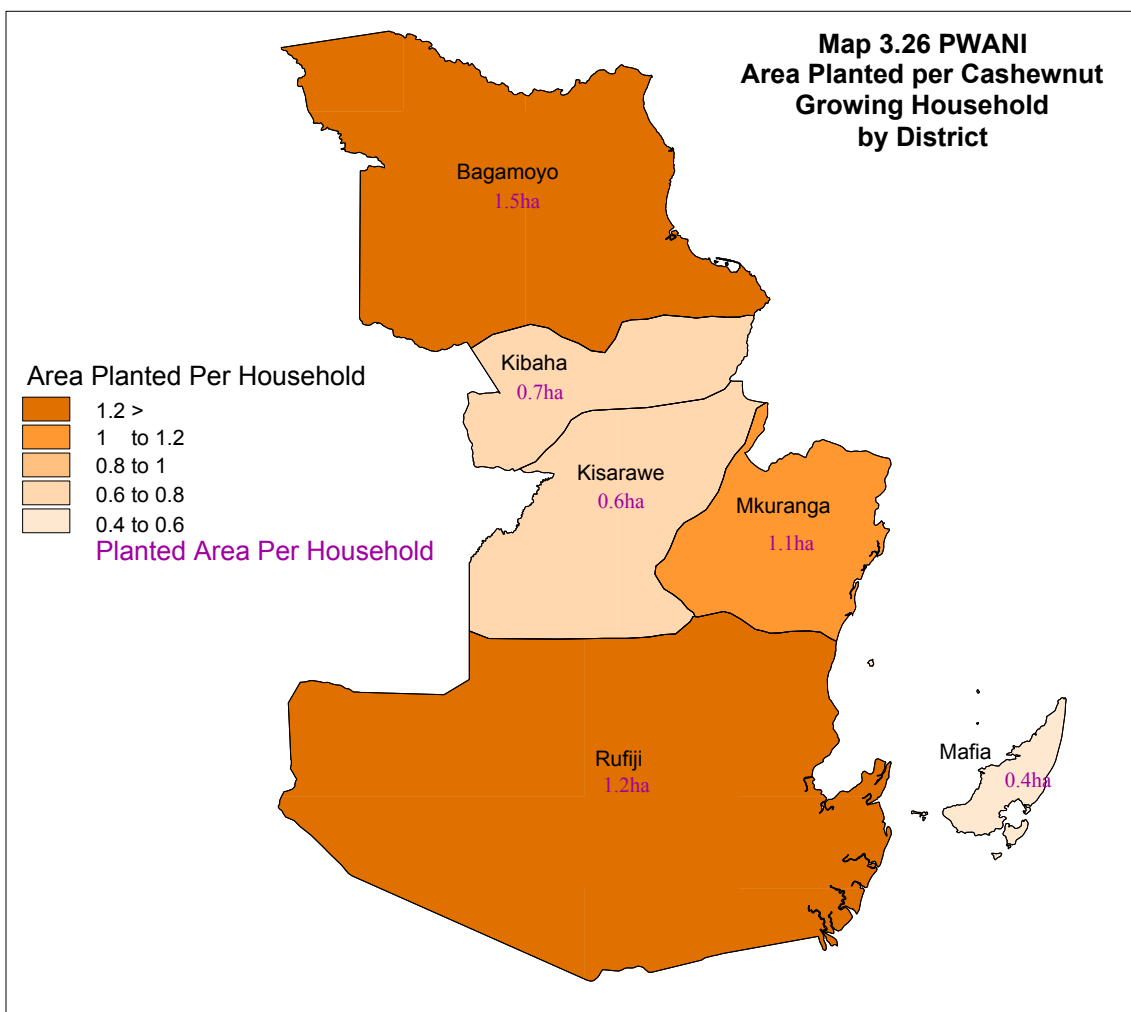
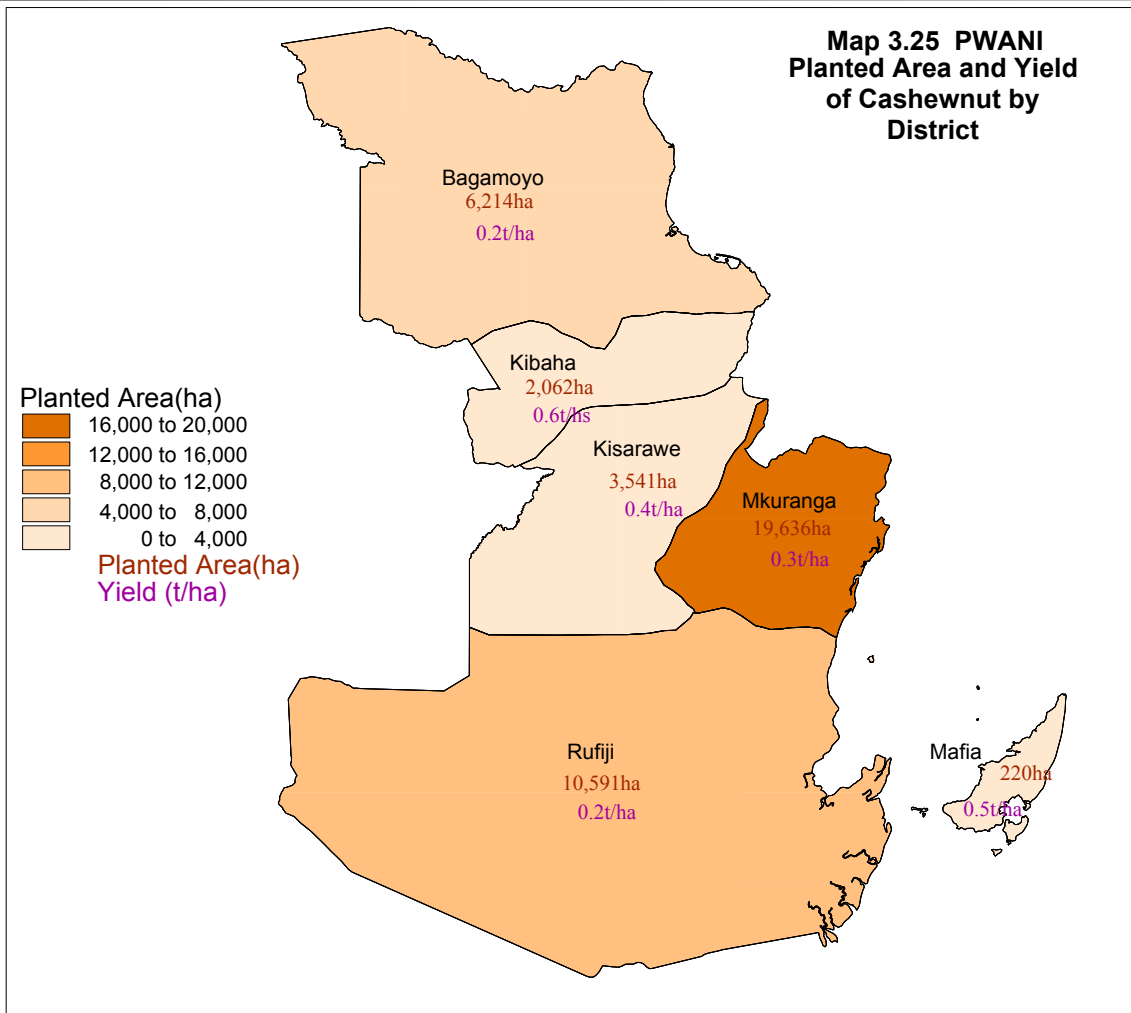


3.4.1 Cashewnuts

The total production of cashewnuts by smallholders was 12,711 tonnes. In terms of area planted, cashewnuts was the most important permanent crop grown by smallholders in the region. They were grown by 40,199 households (28.8% of the total crop growing households). The average area planted with cashewnuts per household was relatively small at around 1.05 ha per cashewnut growing household and the average yield obtained by smallholders was 416 kg/ha from a harvest area of 30,529 hectares.

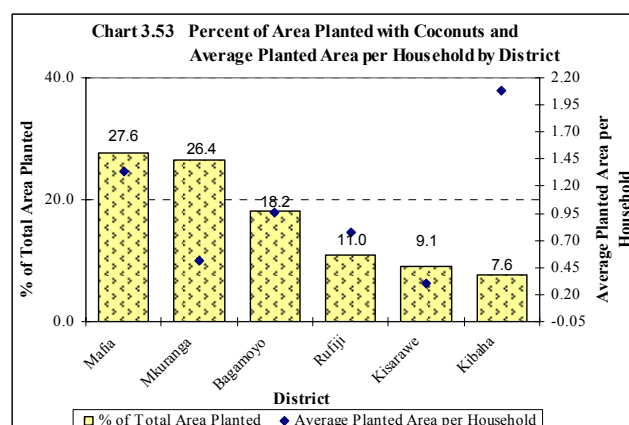


Mkuranga had the largest area of cashewnuts in the region (19,636 ha, 46.5%) followed by Rufiji (10,591 ha, 25.1%), Bagamoyo (6,214 ha, 14.7%), Kisarawe (3,541 ha, 8.4%), Kibaha (2,062 ha, 4.9%) and Mafia (220 ha, 0.5%). (Map 3.25). However, the average area planted with cashew nuts per cashew nut growing household was highest in Bagamoyo (1.5 ha) followed by Rufiji (1.2 ha), Mkuranga (1.1 ha), Kibaha (0.7 ha) and Mafia (0.4 ha) (Chart 3.52 and Map 3.26).



3.4.2 Coconuts

The total production of coconuts by smallholders was 30,732 tonnes. In terms of area planted, the coconut was the second most important permanent crop grown by smallholders in the region. It was grown by 24,094 households (17.3% of the total crop growing households). The average area planted with coconuts per household was relatively small at around 0.72 ha per coconut growing household and the average yield obtained by smallholders was 2,333 kg/ha from a harvest area of 13,171 hectares.

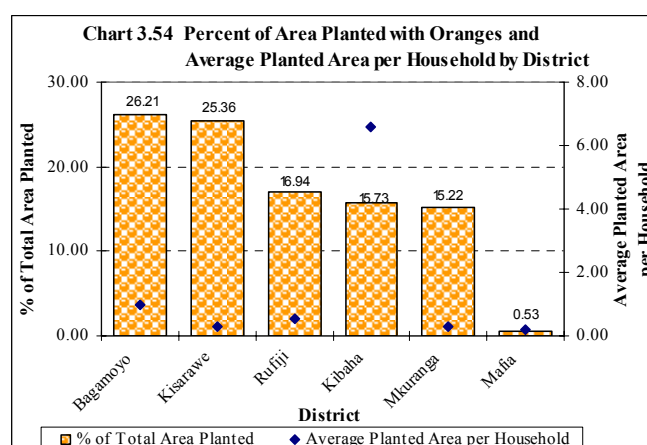


Mafia had the largest area of coconuts in the region (4778 ha, 27.6%) followed by Mkuranga (4569 ha, 26.4%), Bagamoyo (3155 ha, 18.2%), Rufiji (1906 ha, 11%), Kisarawe (1575 ha, 9.1%) and Kibaha (1317 ha, 7.6%) (Map 3.28). However, the average area planted with coconuts per coconut planting household was highest in Kibaha (2.08 ha) followed by Mafia (1.34 ha), Bagamoyo (0.96 ha), Rufiji (0.78 ha), Mkuranga (0.52 ha) and Kisarawe (0.3 ha) (Chart 3.53 and Map 3.28).

3.4.3 Oranges

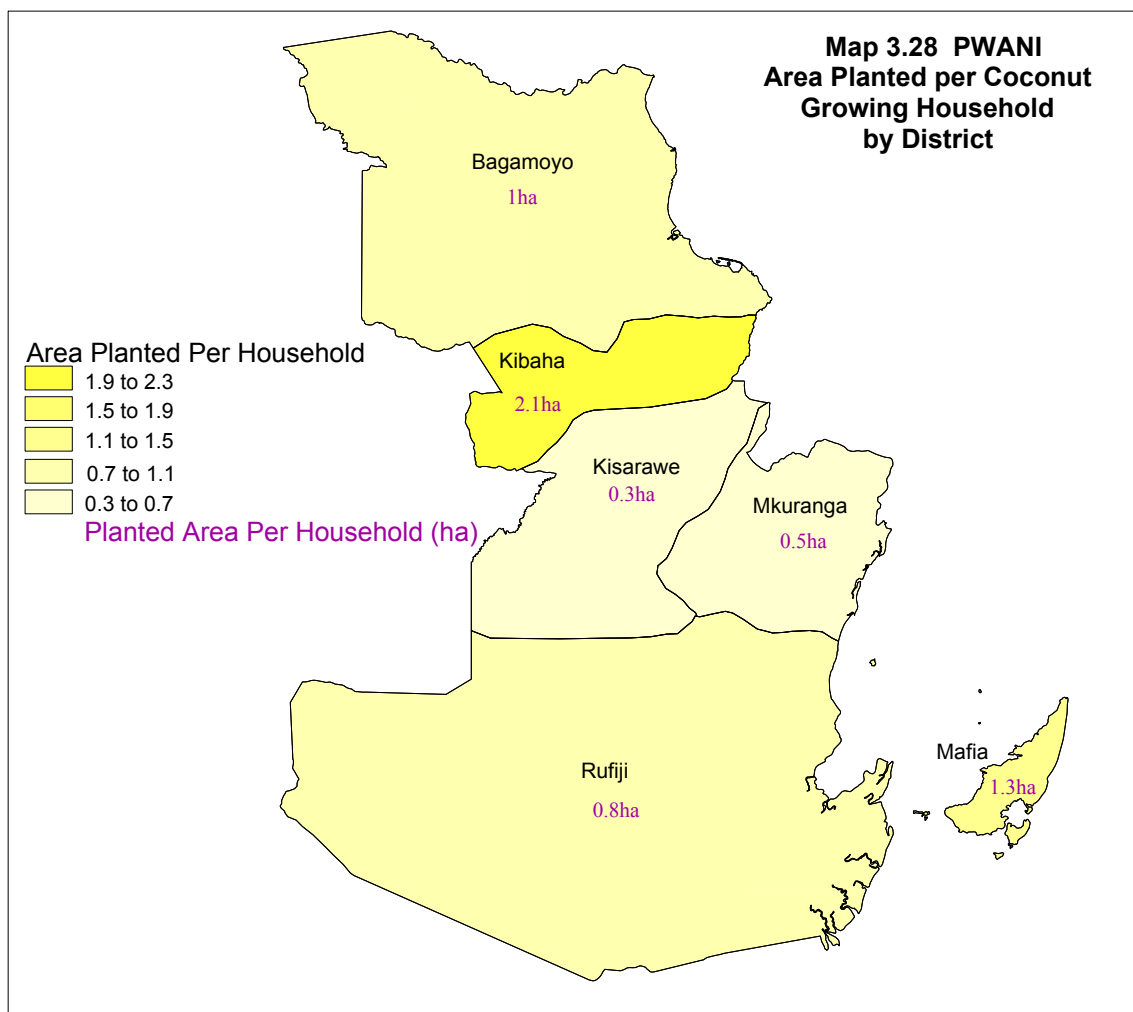
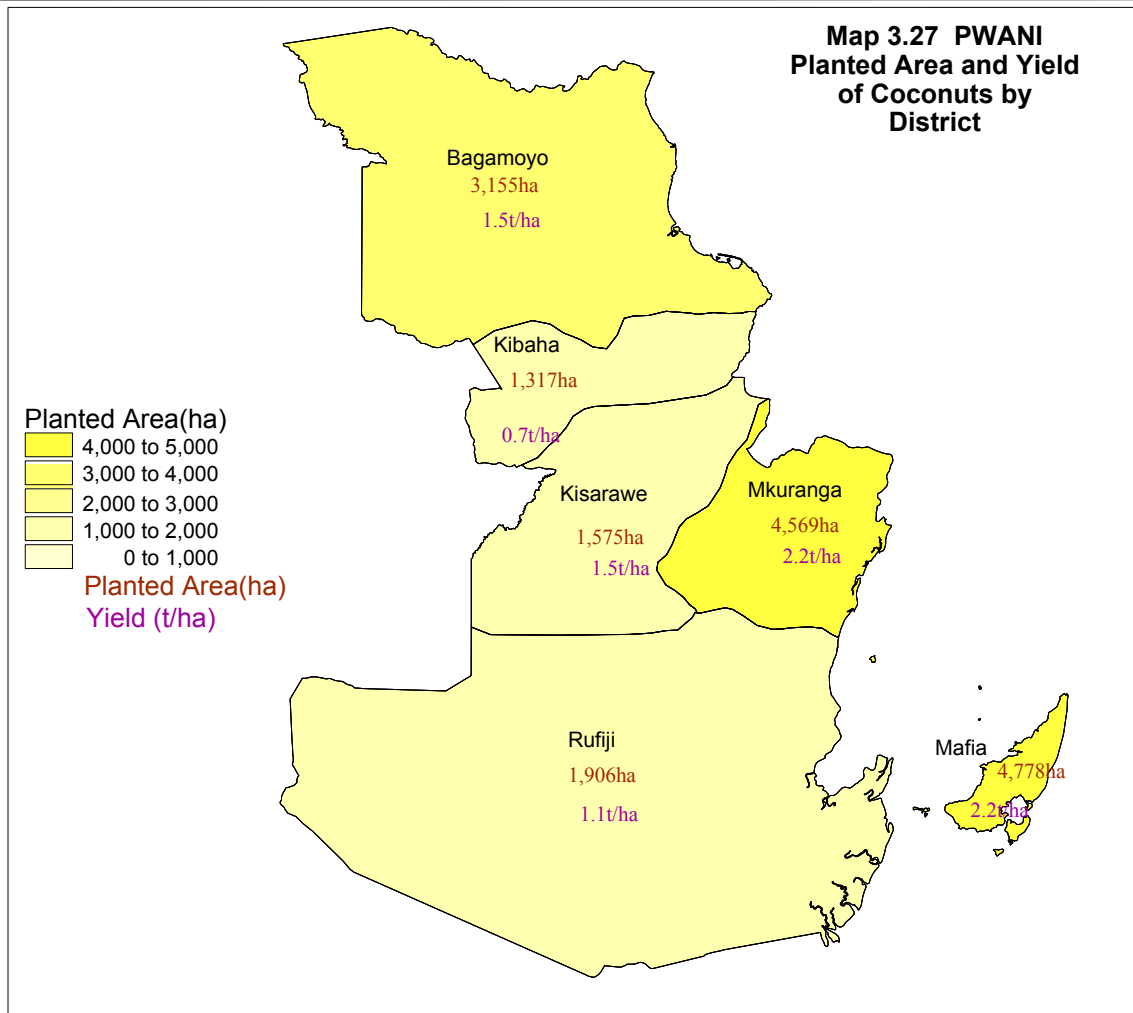
The total production of oranges by smallholders was 18,807 tonnes. In terms of area planted, oranges were the third most important permanent crops grown by smallholders in the region. They were grown by 15,006 households (10.8% of the total crop growing households). The average area planted with oranges per household was 0.51 ha per orange growing household and the average yield obtained by smallholders was 5,266 kg/ha from a harvested area of 3,571 hectares.

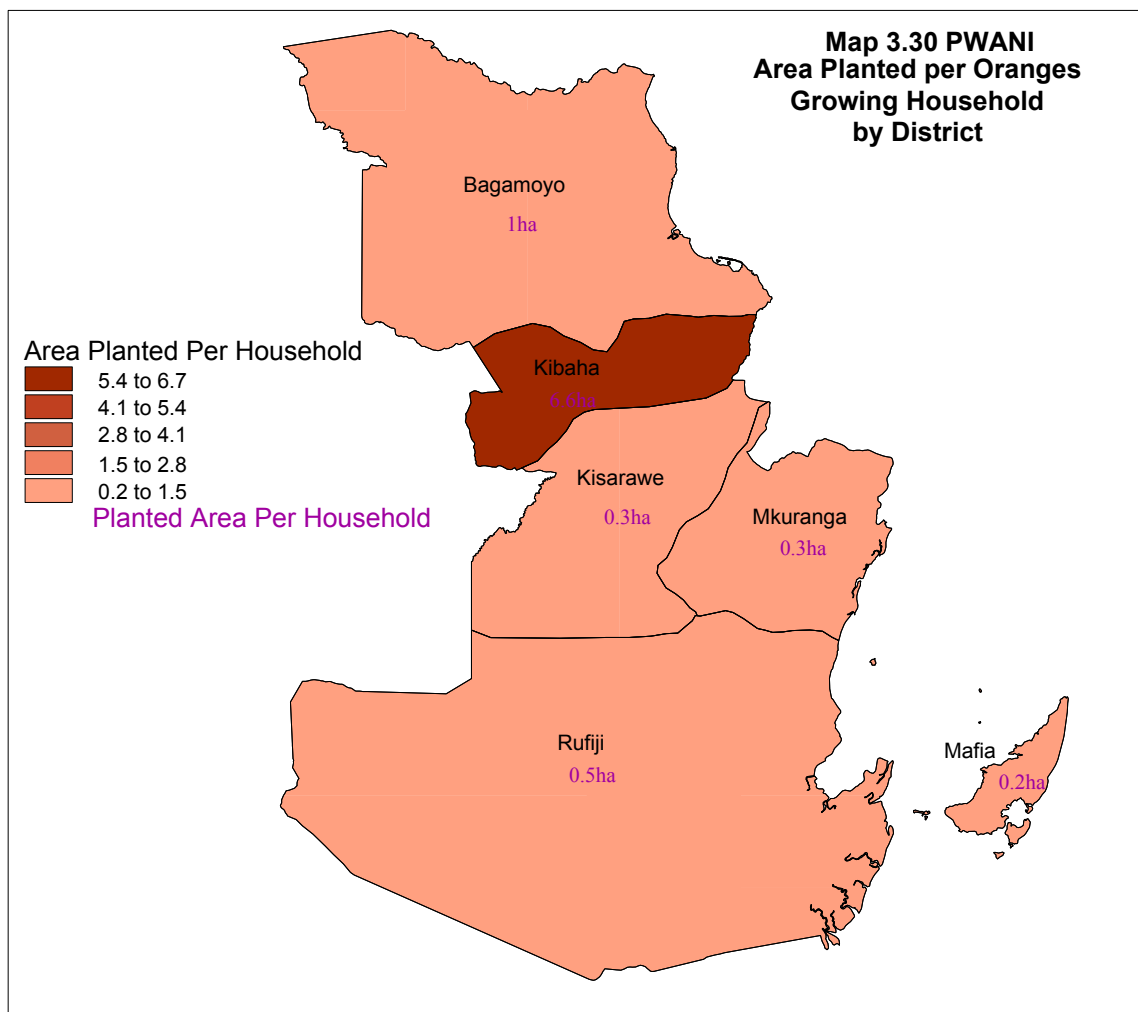
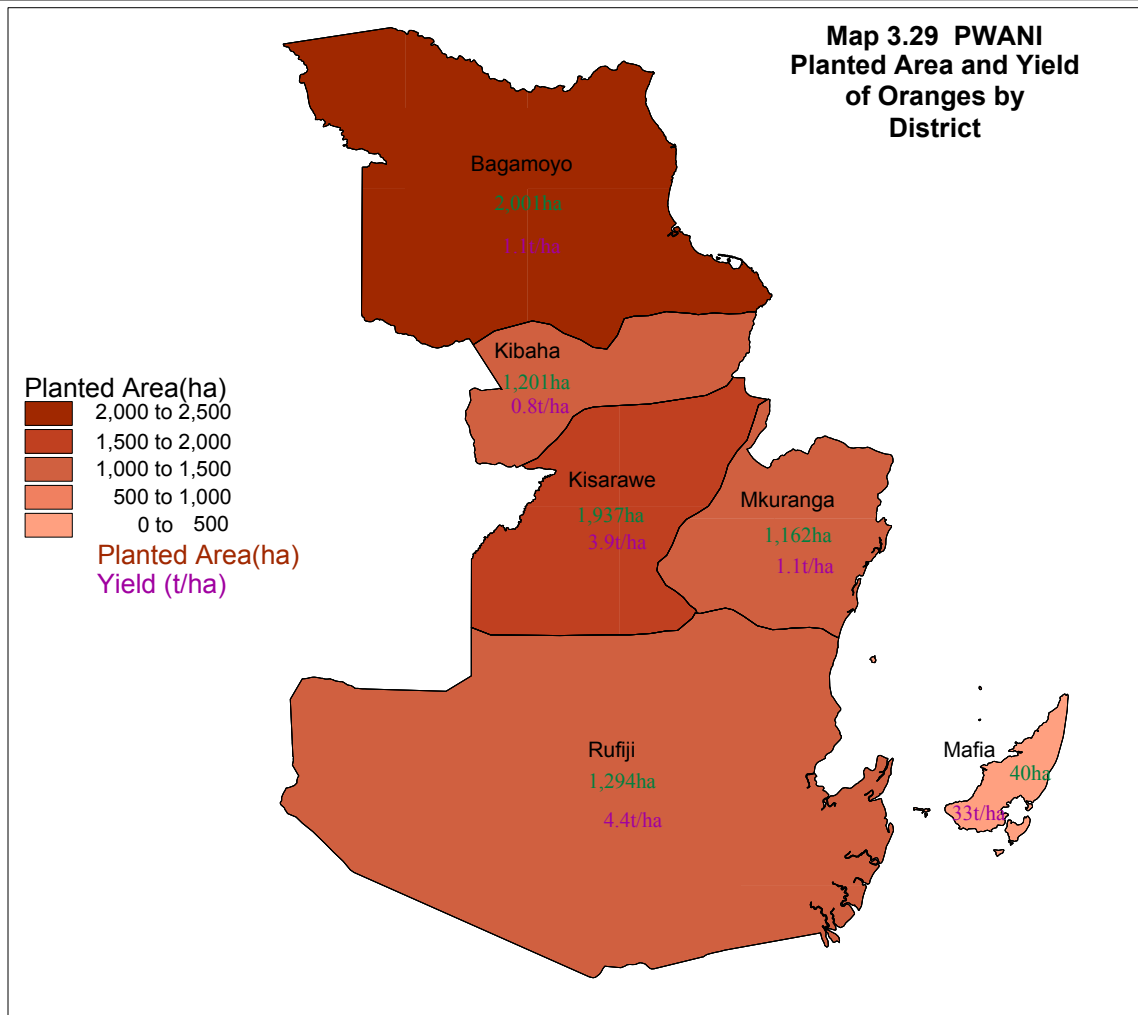
Bagamoyo had the largest planted area of oranges in the region (2,001 ha, 26.1%) followed by Kisarawe (1,937 ha, 25.4%), Rufiji (1,294 ha, 17%), Kibaha (1,201 ha, 15.7%), Mkuranga (1,162 ha, 15.2%) and Mafia (40 ha, 0.5%) (Map 3.29). However, the area planted with oranges per orange growing household was highest in Kibaha (6.58 ha), followed by Bagamoyo (0.96 ha), Rufiji (0.53 ha), Kisarawe (0.31 ha), Mkuranga (0.3 ha) and Mafia (0.2 ha) (Chart 3.54 and Map 3.30).



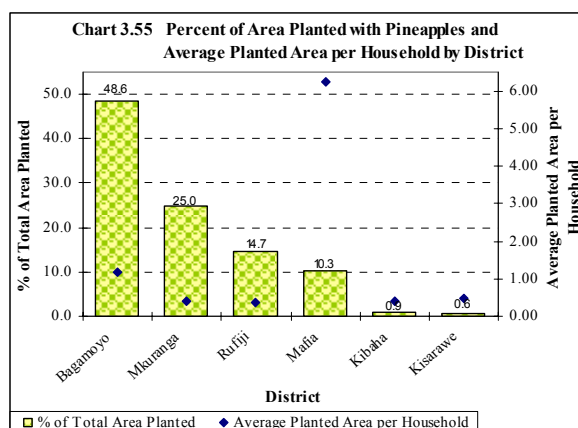
3.4.4 Pineapples

The total production of pineapples by smallholders was 9,419 tonnes. In terms of area planted, pineapples were the fourth most important permanent crop grown by smallholders in the region. They were grown by 5,370 households (3.9% of the total crop growing households). The average area planted with pineapples per household was relatively small at around 0.68 ha per pineapples growing household and the average yield obtained by smallholders was 4,498 kg/ha from a harvest area of 2,094 hectares.





Bagamoyo has the largest area of pineapples in the region (1,762 ha, 48.6%) followed by Mkuranga (906 ha, 25%), Rufiji (533 ha, 14.7%), Mafia (372 ha, 10.3%), Kibaha (31 ha, 0.9%) and Kisarawe (23 ha, 0.6%) (Map 3.37). However, the average area planted per pineapple growing household was highest in Mafia (6.25 ha), followed by Bagamoyo (1.19 ha), Kisarawe (0.49 ha), Mkuranga (0.41 ha), Kibaha (0.39 ha), and Rufiji (0.36 ha), (Chart 3.55 and Map 3.38). Although Kisarawe had a planted area of 23 ha, the district reported no pineapples production.



3.5 Inputs/Implements Use

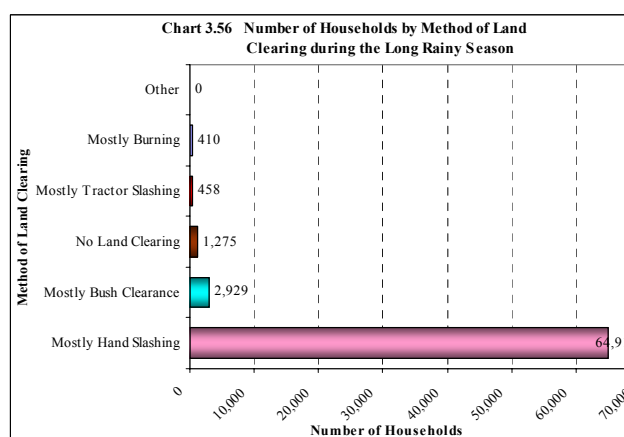
3.5.1 Methods of Land Clearing

Land clearing is a common pre-tillage operation practiced by most farmers in the region. Land clearing is divided into two categories: bush clearing, which by definition implies either expansion into virgin areas or into

areas which have been left fallow for a long period, while the other category, which includes burning, hand slashing or tractor slashing, is

normally an annual clearing exercise to remove vegetation growth from the previous season.

Hand slashing is the most widely used method for land clearing. The area cleared by hand slashing in the region during the



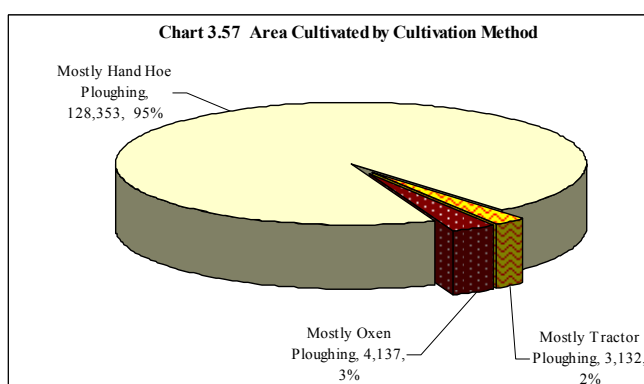
long rainy season was 61,869 ha which represented 92.1 percent of the total planted area. Bush clearance, tractor slashing and burning are less important methods for land clearing and they represent 7.9 percent in total. (Table 3.8).

Table 3.8: Land Clearing Methods

Method of Land Clearing	Long Rainy Season			Short Rainy Season			Total		
	Number of Households	Area Planted	%	Number of Households	Area Planted	%	Number of Households	Area Planted	%
Mostly Hand Slashing	64,915	61,869	92	90,001	64,224	95	154,916	126,093	93
Mostly Bush Clearance	2,929	2,533	4	4,074	2,690	4	7,003	5,223	4
No Land Clearing	1,275	1,123	2	641	352	1	1,916	1,475	1
Mostly Tractor Slashing	458	731	1	154	71	0	612	802	1
Mostly Burning	410	928	1	986	531	1	1,396	1,460	1
Other	0	0	0	142	69	0	142	69	0
Total	69,986	67,185	100.0	95,998	67,937	100	165,985	135,122	100

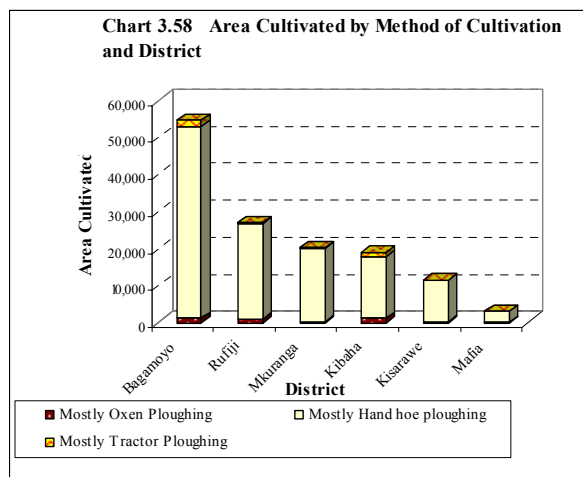
3.5.2 Methods of Soil Preparation

Hand cultivation is mostly used for soil preparation as it was used in an area of 128,353 ha which represented 95 percent of the total planted area, followed by ox-ploughing (4,137 ha, 3%) and tractor ploughing (3,132 ha, 2%). (Chart 3.57).



More hand cultivation was used during short rainy season at 96 percent against 94 percent for the long rainy season, whereas, oxen and tractor ploughing in the long rainy season were 3.4 percent and 3.0 percent respectively. For the short rainy season the corresponding percentages were 2.7 and 1.6 respectively.

In Pwani region, Kibaha district had the largest planted area cultivated with oxen (1,157 hectares, 28%) followed by Bagamoyo (1,149 ha, 27.8%), Rufiji (1,099 ha, 26.6%), Kisarawe (336 ha, 8.1%), Mkuranga (333 ha, 8.0%) and Mafia (64 ha, 1.6%).

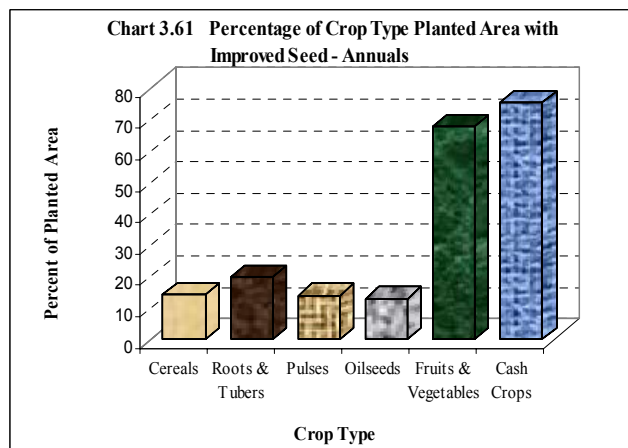
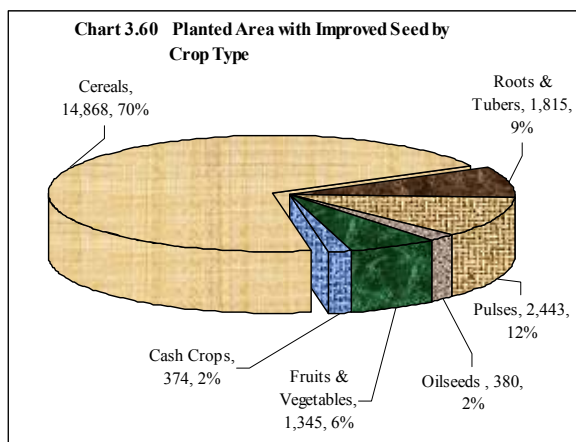
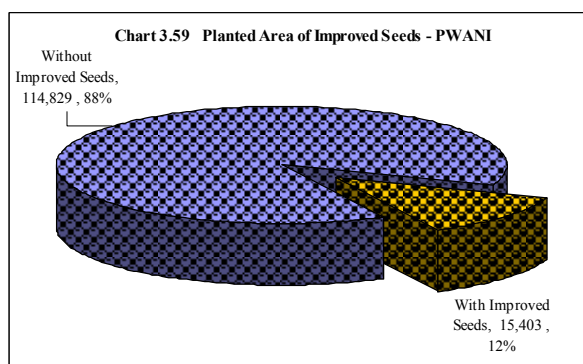


During the long rainy season, 2.4 percent of the total area cultivated by using oxen was planted with cereals followed by roots and tubers (0.3%), pulses (0.3%), oil seeds (0.3%), fruit and vegetables (0%) and cash crops (0%).

3.5.3 Improved Seeds Use

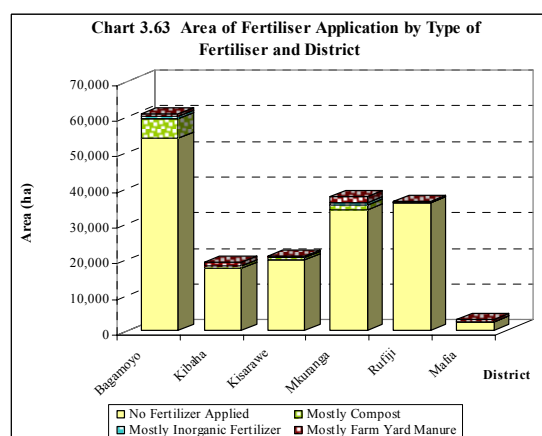
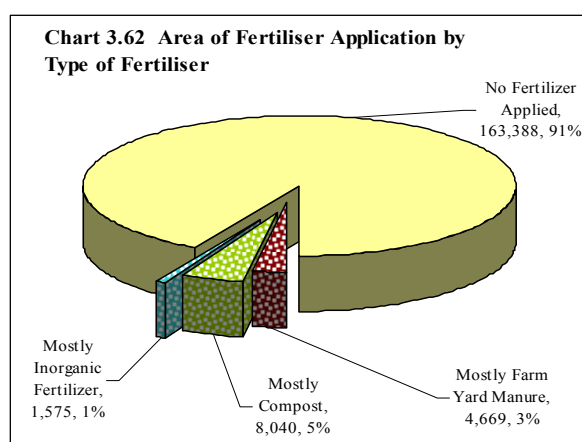
The planted area using improved seeds was estimated at 15,403 ha which represents 12 percent of the total planted with the annual crops and vegetables area.

Cereals had the largest planted area with improved seeds (14,868 ha, 70% of the planted area with improved seeds) followed by pulses (2,443 ha, 12%), roots and tubers (1,815 ha, 9%), fruit and vegetables (1,345 ha, 6%), Oil seed (380 ha, 2%) and cash crops (374 ha, 2%). (Chart 3.60). However, the use of improved seeds in cash crops and fruit and vegetables is much greater than in other crop types (76% and 68% respectively), only 13 percent of the planted area for oil seed crops used improved seeds (Chart 3.61, Map 3.34).



3.5.4 Fertilizers Use

The use of fertilisers on annual crops is very small with a planted area of only 14,284 ha (8% of the total planted area in the region). The planted area without fertiliser for annual crops was 163,388 hectares representing 92 percent of the total planted area with annual crops. Of the planted area with fertiliser application, compost was applied to 8,040 ha which represents 4.5 percent of the total planted area (59.3% of the area planted with fertiliser application in the region). This was followed by farm yard manure (4,669 ha, 2.6%). Inorganic fertilizers were used on a very small area and represented only 0.9 percent of the area planted with fertilizers.



The highest percentage of the area planted with fertilizers (all types) was in Bagamoyo district (47.8%) followed by Mkuranga (25.4%), Kibaha (11.6%), Kisarawe (7.8%), Mafia (5.6%), and Rufiji (1.8%) (Table 3.9 and Charts 3.62 and 3.63).

Table 3.9 Planted Area by Type of Fertiliser Use and District - Long and Short Rainy Season

District	Fertilizer Use				No Fertiliser Applied
	Mostly Farm Yard Manure	Mostly Compost	Mostly Inorganic Fertilizer	Total	
Bagamoyo	861	5,409	561	6,832	53,931
Kibaha	1,099	362	203	1,664	17,620
Kisarawe	337	706	68	1,112	19,808
Mkuranga	1,732	1,324	565	3,621	33,945
Rufiji	96	131	31	258	35,775
Mafia	543	107	148	797	2,308
Total	4,669	8,040	1,575	14,284	163,388

Most annual crop growing households do not use any fertiliser (approximately 163,888 households, 90%) (Map 3.31). The percentage of the planted area with applied fertiliser was highest

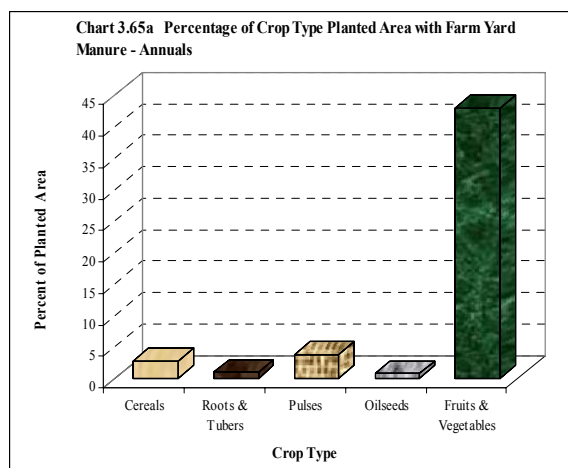
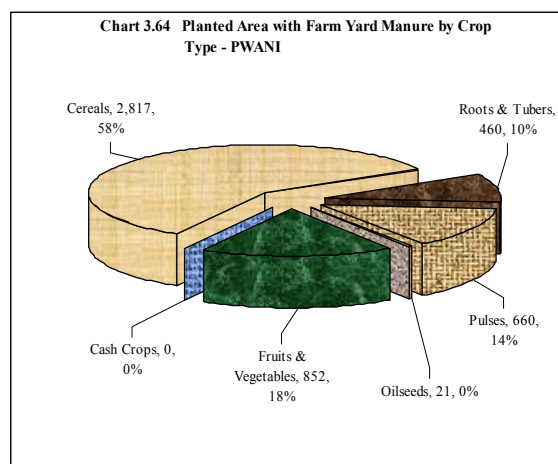
for fruit and vegetables (53% of the area planted with these fruit and vegetables during the long rainy season had an application of fertilizers). This was followed by cash crops (24%), oil seeds (20.2%), pulses (19.7%) cereals (10%) and roots and tubers (4%)

Table 3.10: Number of Crop Growing Households and Planted Area by Type of Fertiliser Use and District – Long Rainy Season

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertiliser		No Fertiliser Applied		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Bagamoyo	560	624	2,403	4,105	451	417	29,270	32,856	32,684	44,062
Kibaha	559	670	265	204	106	42	8,090	8,723	9,019	9,905
Kisarawe	95	102	474	263	0	0	5,781	3,364	6,350	13,056
Mkuranga	385	425	834	439	158	98	7,965	4,872	9,342	23,162
Rufiji	0	0	72	52	0	0	10,008	8,782	10,080	17,846
Mafia	541	260	230	84	9	5	2,145	1,093	2,926	1,499
Total	2,141	2,081	4,277	5,147	724	562	63,258	59,691	70,400	109,531

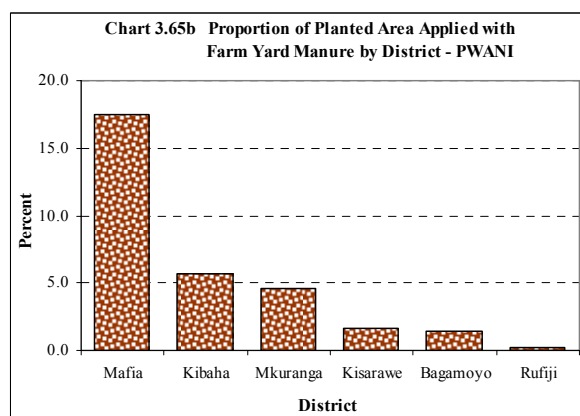
3.5.4.1 Farm Yard Manure Use

The total planted area applied with farm yard manure in Pwani region was 4,810 ha. The number of households that applied farm yard manure in their annual crops during the long rainy season was 4,690 and it was applied to 2,222 ha



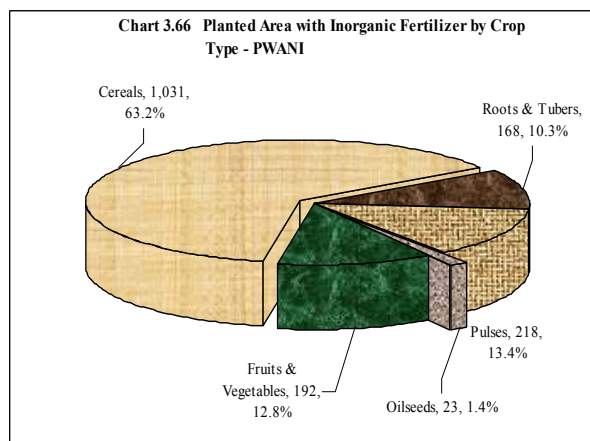
representing 2 percent of the total area planted during that season. (Table 3.10). Cereals had the highest percent of the total area planted with applied farm yard manure (59%), followed by fruit and vegetables (18%), pulses (14%), roots and tubers (10%). For oil seeds and cash crops it was insignificant.

However, fruit and vegetables had the highest percent of the planted area with farm yard manure (43% of the total area of fruit and vegetables in Pwani). This was followed by pulses (4%), cereals (3%), roots and tubers (1%), oil seeds (1%), and none for cash crops. (Chart 3.64 and Chart 3.65a).



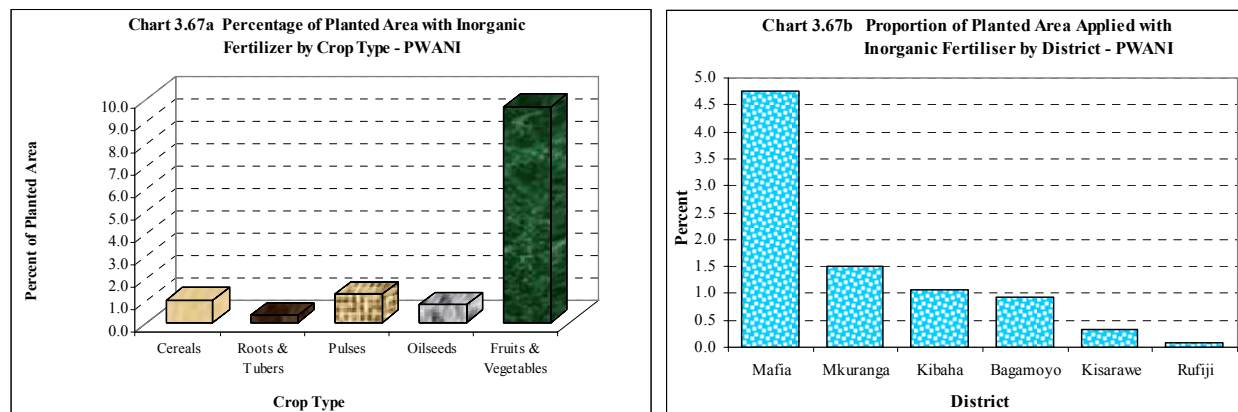
Farm yard manure is mostly used in Mafia (17.5% of the total planted area in the district), followed by Kibaha (5.7%), Mkuranga (4.6%), Kisarawe (1.6%), Bagamoyo (1.4%) and Rufiji (0.3%). (Chart 3.65b).

For permanent crops, most farm yard manure is used for the production of cashew nuts (38.4%), followed by coconuts (32.8%), bananas (9.6%) and pawpaw (7.1%).



3.5.4.2 Inorganic Fertiliser Use

The total planted area applied with inorganic fertilisers in Pwani region was 1,632 ha which represents 0.92 percent of the total planted area with annuals in the region and 10.2 percent of the total planted area with fertiliser. The number of households that applied inorganic fertilizers on their annual crops during the long rainy season was 1,291 and it was



applied to 619 ha representing 1.2 percent of the total area planted during that season (Table 3.10). The largest area applied with inorganic fertilizers was on cereals (63% of the total area applied with inorganic fertilizers), followed by pulses (13%), fruit and vegetables (12%) and roots and tubers (10%) (Chart 3.66). However, the proportion of fruits and vegetables with inorganic fertilizers was 10 percent, higher than other crop types, followed by pulses (1.2%), cereals (1%) and oil seeds (0.8%). (Chart 3.67a).

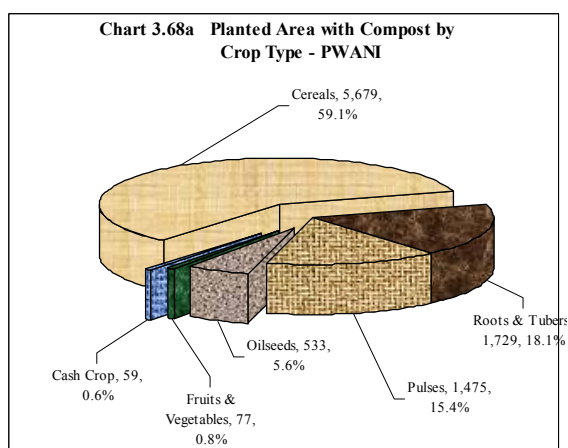
Inorganic fertiliser is mostly used in Mafia (4.8% of the total planted area in the district), followed by Mkuranga (1.5%), Kibaha (1.1%), Bagamoyo (0.9%), Kisarawe (0.3%) and Rufiji (0.1%). (Chart 3.67b).

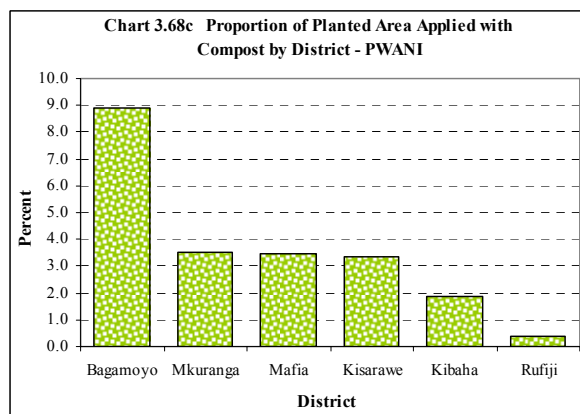
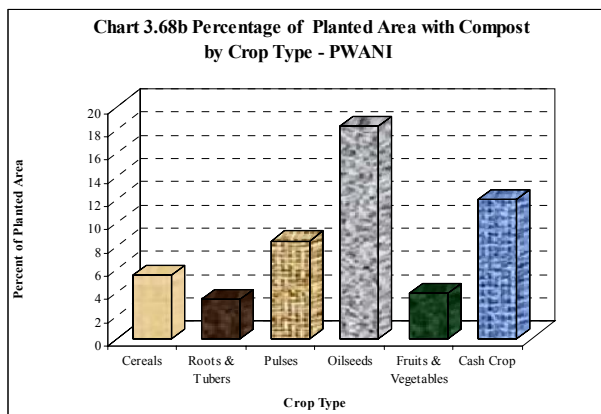
In permanent crops inorganic fertiliser were used on cashew nuts (61%), followed by pineapples (21%), coconuts (13.2%), and pigeon peas (3.6%).

3.5.4.3 Compost Use

The total planted area applied with compost was 9,553 ha which represents only 5.4 percent of the total planted area with annual crops in the region and 59.7 percent of the total planted area with fertiliser in the region. The number of households that applied compost manure on their annual crops during the long rainy season was 10,347 and it was applied to 6,660 ha representing 9.4 percent of the total area planted (Table 3.10). The proportion of area applied with compost was low for each type of crop (3 to 18%); however the distribution of the total area using compost manure shows that 59.5 percent of this area was cultivated with cereals, followed by roots & tubers (18.1%), pulses (15.4%), oil seeds (5.6%), fruits and vegetables (0.8%) and cash crops (0.6%). (Chart 3.68b).

Compost is mostly used in Bagamoyo (8.9% of the total planted area in the district), and this is closely followed by Mkuranga (3.5%), Mafia (3.5%), Kisarawe (3.4%), Kibaha (1.9%), and Rufiji (0.4%). (Chart 3.68c).



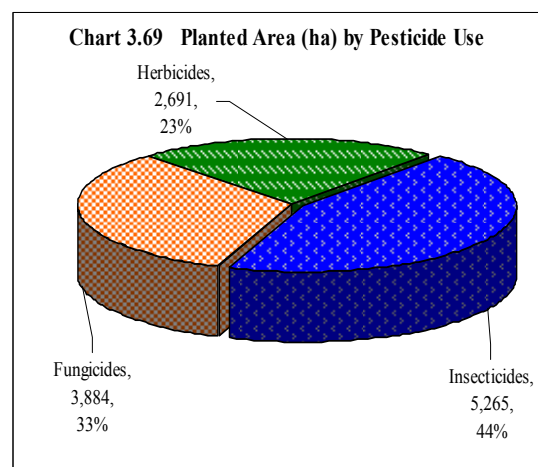


In permanent crops, compost was mostly used for the production of cashew nuts (69%) followed by oranges (14.3%), coconuts (9.9%) and mango (2.4%).

3.5.5 Pesticides Use

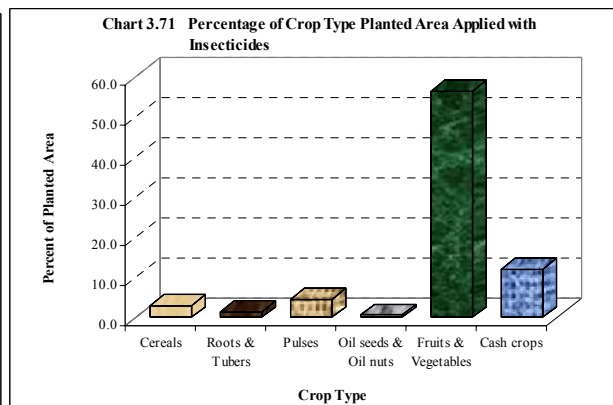
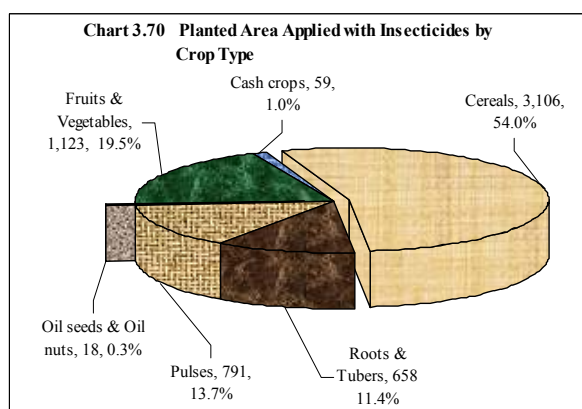
Pesticides are chemicals used for controlling insects, diseases and weeds. This section analyses the use of these chemicals by smallholders on both annual and permanent crops in the region. Pesticides were applied to a planted area of 11,840 ha of annual crops and vegetables.

Insecticides are the most common pesticides used in the region (44% of the total area applied with pesticides). This was followed by fungicides (33%) and herbicides (23%) (Chart 3.69).

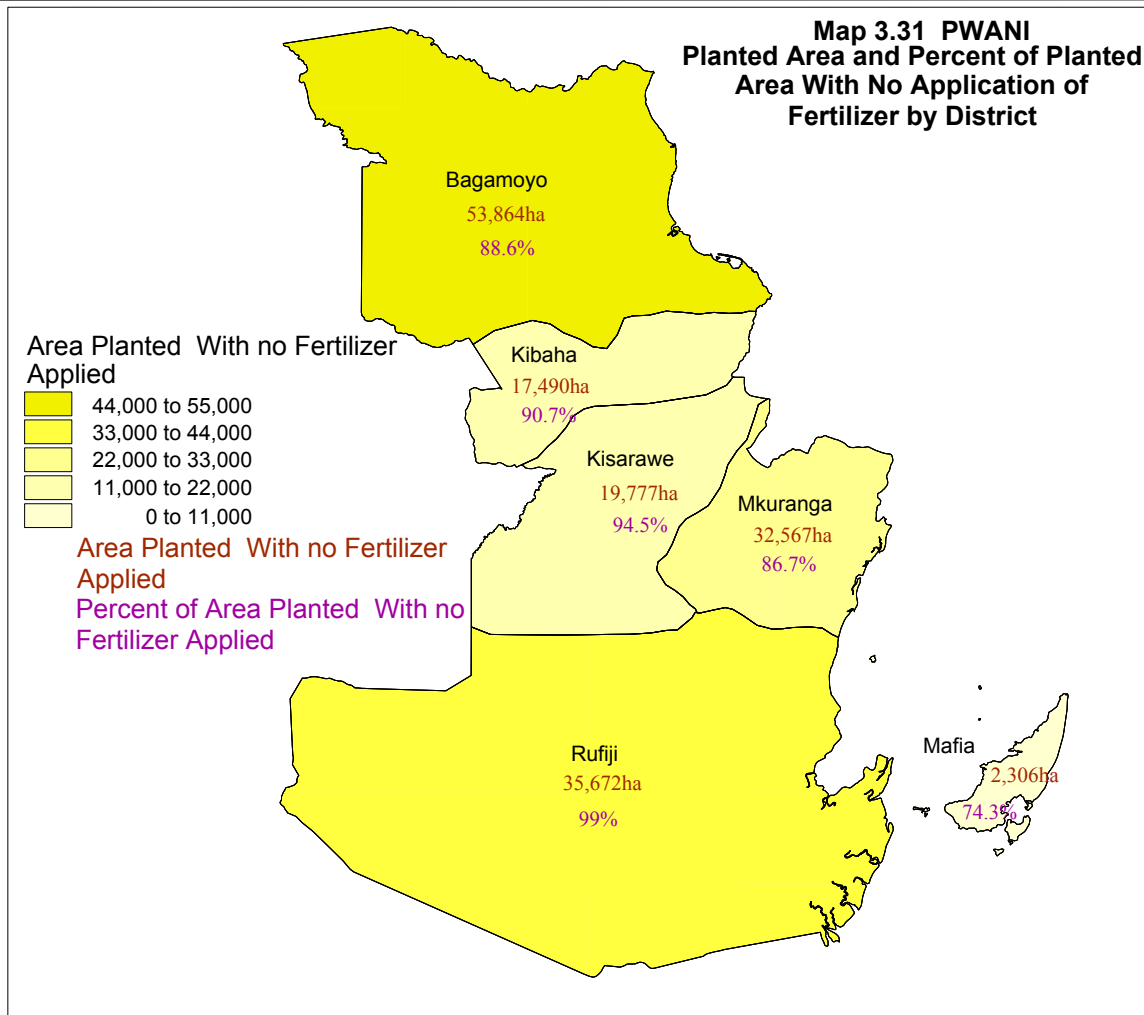


3.5.5.1 Insecticides Use

The planted area applied with insecticides represented 3.2 percent of the total planted area for annual crops and vegetables.



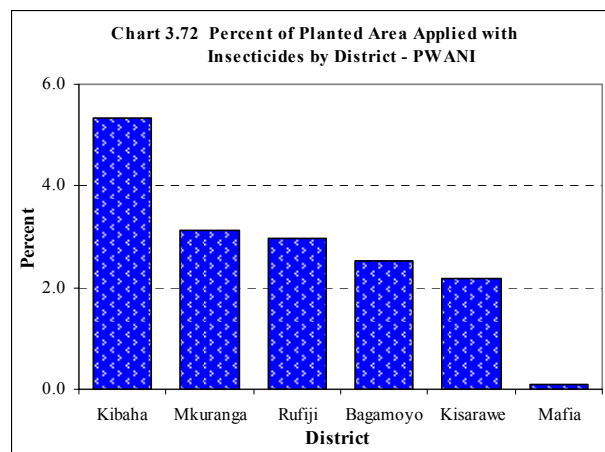
Cereals had the largest planted area applied with insecticides (3,106 ha, 54% of the total planted area with insecticides) followed by fruit and vegetables (1,123 ha, 19.5%), pulses (791 ha, 13.7%), roots and tubers (658 ha, 11.4%), cash crops (59 ha, 1%) and oil seed (18 ha, 0.3%) (Chart 3.70). However, the percent of insecticides used in fruits and vegetables and



cash crops is much greater than in other crop types (56.5 and 12% respectively), while only 0.6 percent of oil seed crops were applied with insecticides (Chart 3.71).

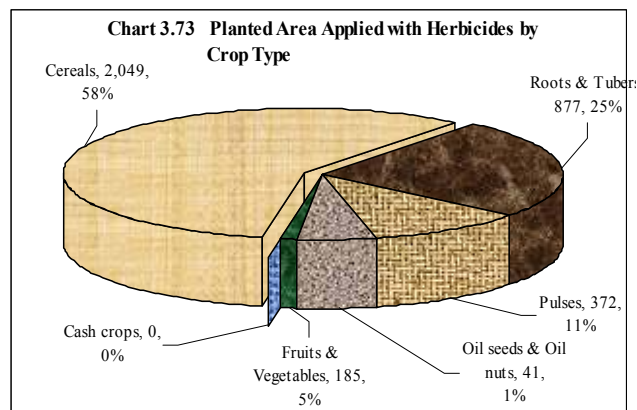
Although cereals had 54% insecticides use, only maize ranked highest with 36.6%. Hence, there were no annual crops with more than 50 percent insecticides use.

Kibaha had the highest percent of planted area with insecticides (5.3% of the total planted area with annual crops in the district). This was closely followed by Mkuranga (3.1%) then Rufiji (3.0%), Bagamoyo (2.5%) and Kisarawe (2.2%). The smallest percentage use was recorded in Mafia district (0.1%) (Chart 3.72).



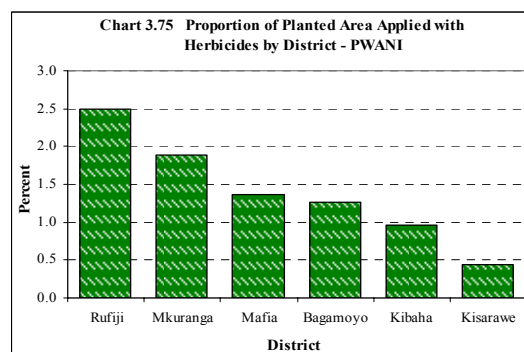
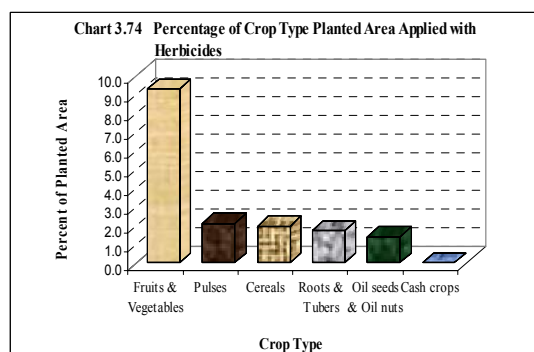
3.5.5.2 Herbicides Use

The planted area applied with herbicides was 3,524 ha which represented 2.0 percent of the total planted area annual crops and vegetables. Cereals had the largest planted area applied with herbicides (2,049 ha, 58%) followed by roots and tuber (877 ha, 25%), pulses (372 ha, 11%), fruits and vegetables (185 ha, 5%) and oil seed (41 ha, 1%). None for cash crops. (Chart 3.73).



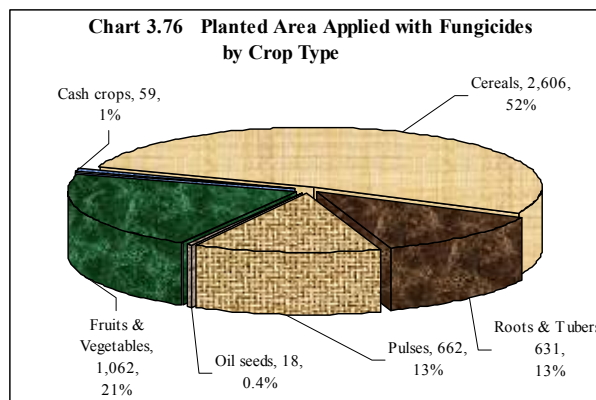
However, the percent of herbicides use on fruit and vegetables and pulses was much greater than in other crop types (9.3% and 2.1% respectively) while only 1.4 percent of oil seeds was applied with herbicides (Chart 3.74). The top six annual crops with highest percentage use of herbicides in terms of planted area were maize (38%), cassava (25%), paddy (17%), cowpeas (9%), sorghum (4%) and water melon (2%).

Rufiji had the highest percent of planted area with herbicides (2.5% of the total planted area with annual crops in the district). This was followed by Mkuranga (1.9%) then Mafia (1.4%), Bagamoyo (1.3%) and Kibaha (1%). The smallest percentage use was recorded in Kisarawe district (0.4%) (Chart 3.75).

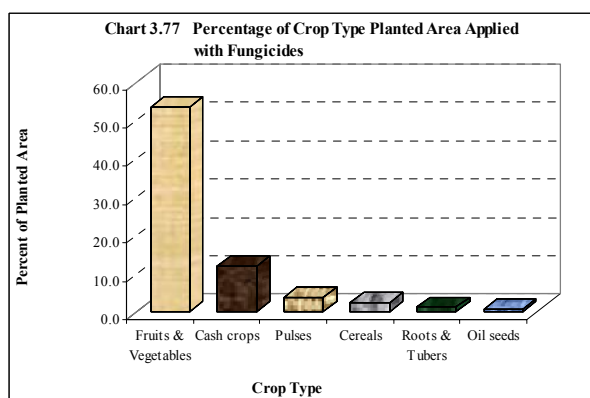


3.5.5.3 Fungicides Use

The planted area applied with fungicides was 5,039 ha which represented 2.8 percent of the total planted area for annual crops and vegetables. The percentage use of fungicides in the short rainy season at (3.5%) was higher than the corresponding percentage for the long rainy season (2.4%). Cereals had the largest planted area applied with fungicides (2,606ha, 52%) followed by fruits and vegetables (1,062 ha, 21%), pulses (662 ha, 13%), roots and tubers (631 ha, 12.5%), cash crops (59 ha, 1%) and oil seeds (18 ha, 0.4%) (Chart 3.76).

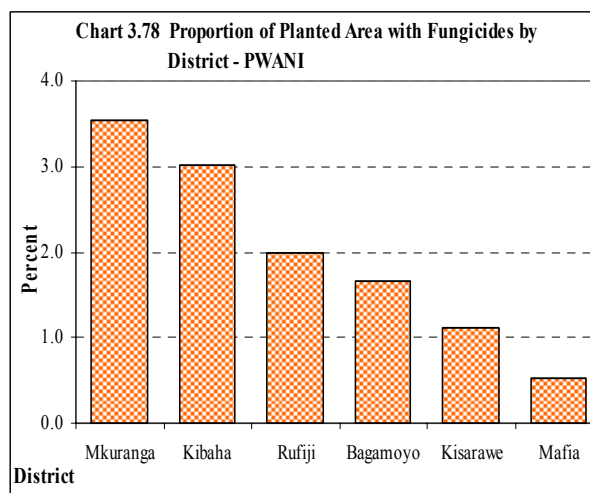


However, the percentage use of fungicides in fruits and vegetables and cash crops was much greater than in other crop types (53% and 12% respectively), while only 0.6 percent of oil seeds was applied with fungicides (Chart 3.77).



Annual crops with more than 40 percent fungicides use were field peas (100%), tomatoes (81%), cotton (79%), cucumber (78%), Onions (74%), chillies (43%) and egg plants (42%).

Mkuranga had the highest percent of planted area with fungicides (3.5% of the total planted area with annual crops in the district). This was closely followed by Kibaha (3.0%) and Rufiji (2.0%). The smallest percentage use was recorded in Mafia district (0.5%) (Chart 3.78).



3.5.6 Harvesting Methods

The main harvesting method for cereals was reported to be by hand. Very small amounts of maize were harvested by machine (2.7%) All other cereals and annual crops were harvested by hand.

3.5.7 Threshing Methods

Hand threshing was the most common method used, with 53 percent of the total area planted with cereals during the long rainy season being threshed by hand. Human powered tools and engine driven machines were only used on crops harvested from 0.4 percent and 2.3 percent of the total planted area respectively. No draft animals were used during threshing.

3.6 Irrigation

Water is the limiting factor to crop production in the majority of areas in Tanzania and without water most other agricultural practices applied to crops do not result in significant increases in yields. This section deals with the area under irrigation by different crops and the means by which water was extracted from the source and applied to the field.

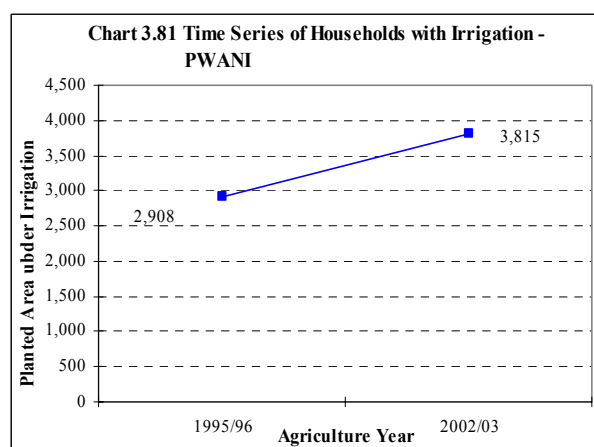
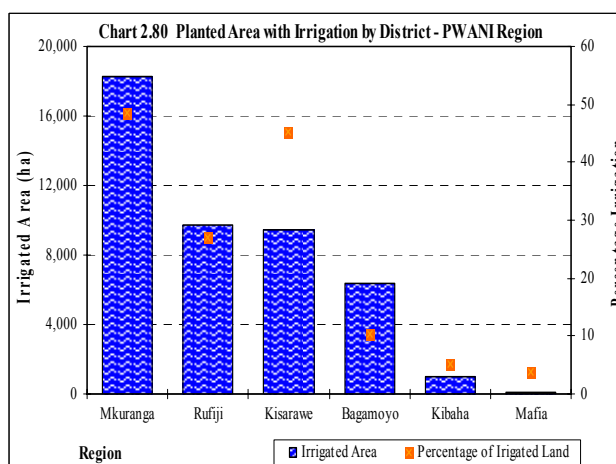
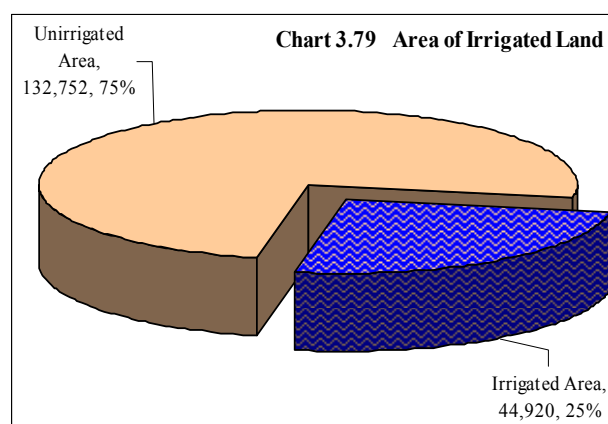
3.6.1 Area Planted with Annual Crops and Under Irrigation

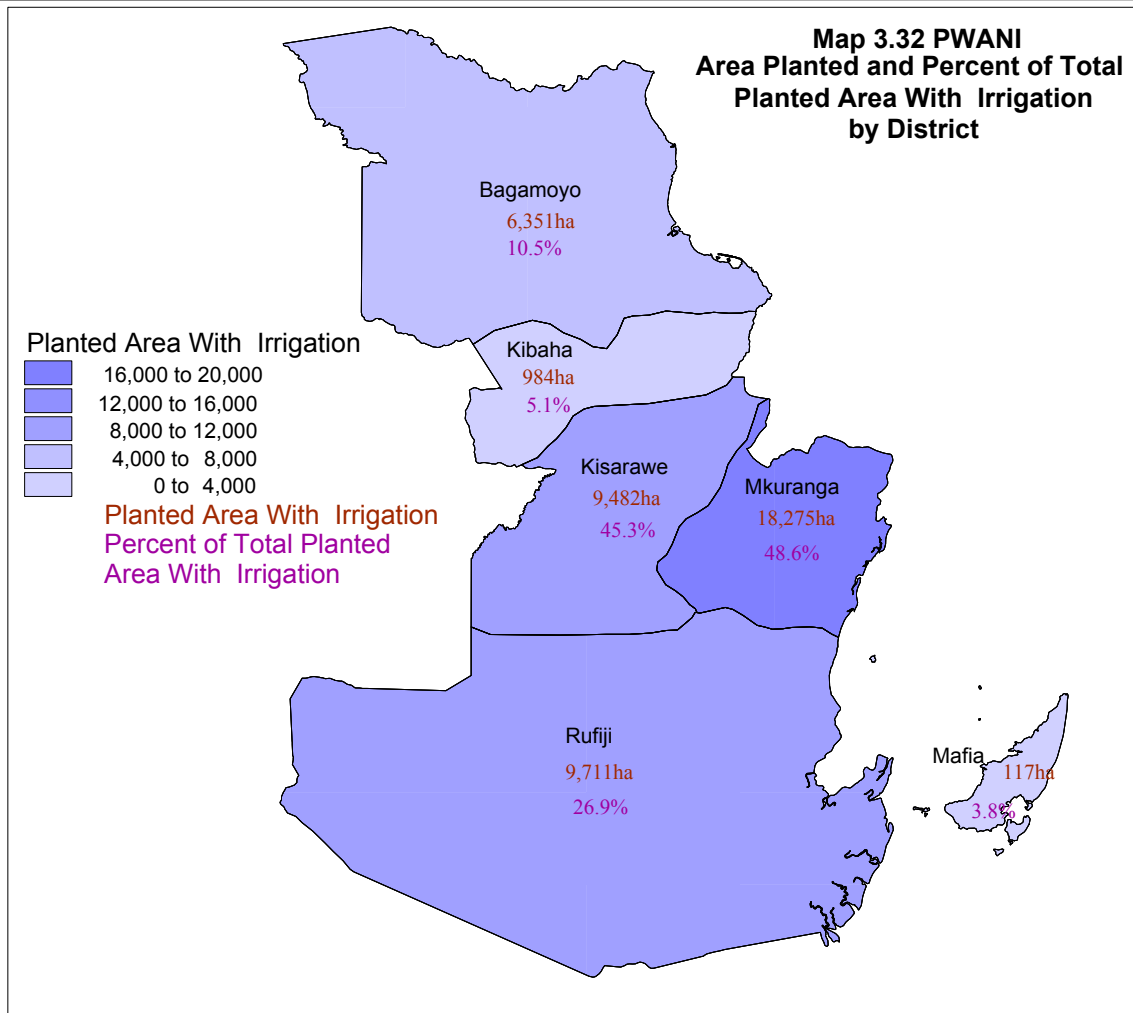
In Pwani region, the area of annual crops under irrigation was 58,870 ha representing 33.1 percent of the total area planted (Chart 3.79). The area under irrigation during the short rainy season was 1,512 ha accounting for 2.6 percent of the total area under irrigation. Some crops, especially vegetables, were predominantly grown in the short rainy season with irrigation. In the short rainy season, 64 percent of the area planted with vegetables was irrigated, whilst 57 percent of the vegetables were irrigated in the long rainy season.

The district with the largest planted area under irrigation with annual crops was Mkuranga (18,275 ha, 40.7% of the total irrigated planted area with annual crops in the region). This is closely followed by Rufiji with (9,711 ha, 21.6%) and then Kisarawe (9,482 ha, 21.1%). The smallest is Mafia (117 ha, 0.3%). When expressed as a percentage of the total area planted in each district, Mkuranga had the highest with 49 percent of the planted area in the district under irrigation. This is followed by Kisarawe (45%), Rufiji (27%), Bagamoyo (10%), Kibaha (5%), and Mafia (4%) (Chart 3.80 and Map 3.32).

Of all the different crops and in terms of proportion of the irrigated planted area, onions, cabbage, chillies and spinach were the most irrigated crops with 100 percent irrigation followed by water melon (98%), amaranthus (89%), egg plant (83%) and cucumber (82%).

In terms of crop type, the area under irrigation with roots and tubers was 41,916 ha (93% of the total area under irrigation), followed by cereals with 1,535 ha (3%), fruit and vegetables (1,210 ha, 3%) and pulses (255 ha, 0.6%). All of the irrigation on cereals was applied to sorghum, maize and paddy.



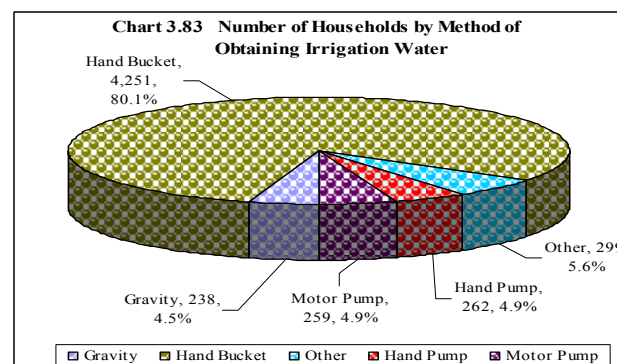
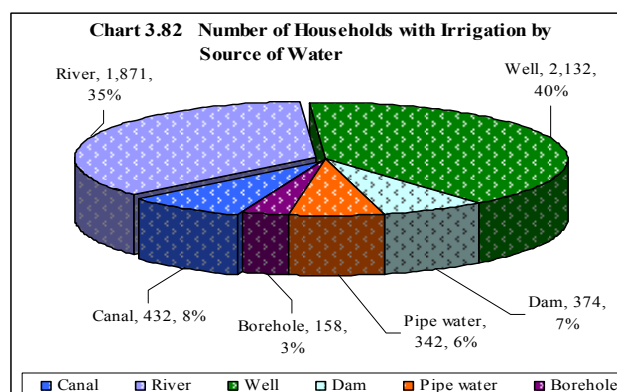


The area of fruit and vegetables under irrigation was 1,210 ha which represents 61 percent of the total planted area with fruit and vegetables. Onions, cabbages, chillies and spinach were the most irrigated crops. Irrigation was not used on annual cash crops.

The Planted area with irrigation in Pwani region appears to have increased over the 10 year intercensal period from 2,908 to 3,815 hectares. This may not be statically significant due to the small number of households sampled with irrigation.

3.6.2 Sources of Water Used for Irrigation

The main source of water used for irrigation was from wells (40% of households with irrigation). This was followed by river (35%) and canal (8%). Only 3 percent of the households used water from boreholes and the proportion of households that used dams and pipe as a source of water for irrigation were very few (7% and 6% respectively). Most households using irrigation in Rufiji and Bagamoyo get their irrigation water from rivers (100 and 60 % respectively).

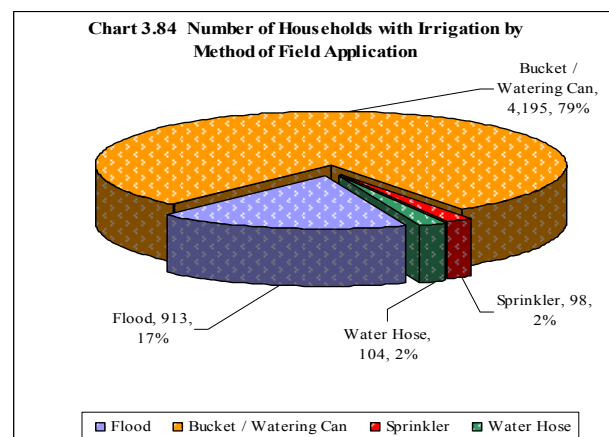


3.6.3 Methods of Obtaining Water for Irrigation

Hand bucket was the most common means of getting water for irrigation with 80.1 percent of households using this method. The remaining methods (hand pump, motor pump and gravity) were of minor importance (Chart 3.83).

Hand bucket was used by most households with irrigation in Mkuranga (49.7%), followed by Kibaha (20.2%), Bagamoyo (16.3%), Kisarawe (7.6%), Rufiji (3.7%) and Mafia (2.5%). Gravity was more common in Bagamoyo with 41.1 percent of households using the method to get water for irrigation, followed by Mkuranga (35.2), Kibaha (17.2%), Mafia (6.5%).

Although the method of obtaining irrigation water by hand bucket was the most common method in all seven districts, Bagamoyo and Mkuranga districts used some hand and motor pumps for obtaining water.



3.6.4 Methods of Water Application

Most households used hand bucket/watering can irrigation (79% of households using irrigation) as a method of field application. This was closely followed by flood (17%). Water hose and Sprinklers were not widely used (2% and 1.8% respectively).

3.7 Crop Storage, Processing and Marketing

3.7.1 Crop Storage

Crop storage means keeping a crop for a certain period of time as food for the household, in order to sell at higher prices or as seeds for planting in the following season.

The results for Pwani region show that there were 43,973 crop growing households (31.5% of the total crop growing households) that stored various agricultural products in the region.

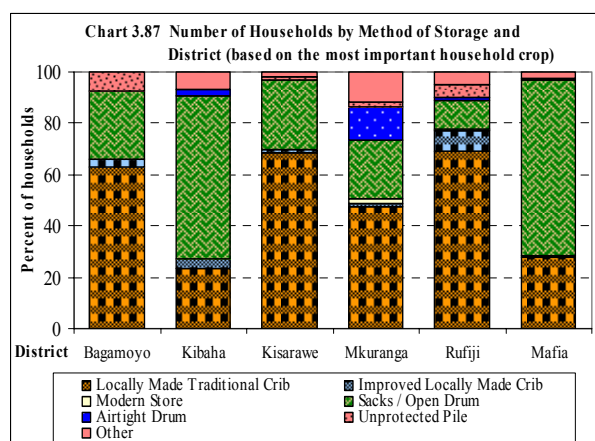
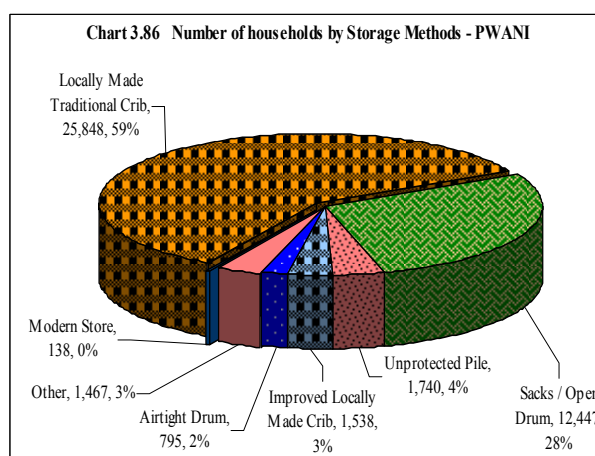
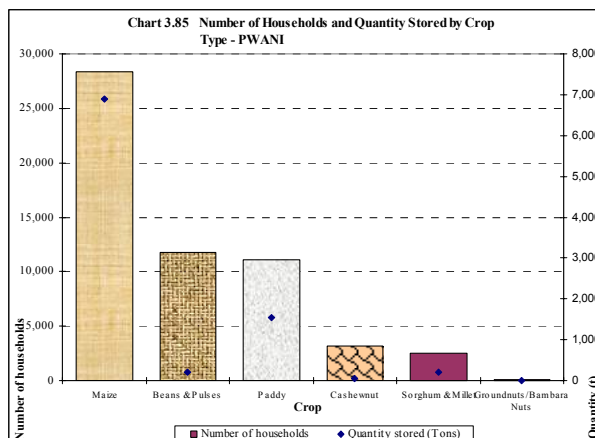
The most important stored crop was maize with 28,351 households storing 6,888 tonnes. This was followed by beans and other pulses (11,798 households, 208t), paddy (11,095 households, 1,538t) and sorghum & millet (2,466 households, 196t). Other crops were stored in very small amounts.

3.7.1.1 Methods of Storage

The region had 25848 crop growing households storing their produce in locally made traditional structures (59% of households that stored crops in the region). The number of households that stored their produce in sacks and/or open drums was 12,447 (28%). This was followed by: unprotected piles (1,740 households, 4%), improved locally made structures (1,538 households, 3%), air tight drums (795 households, 21%) and modern stores (138 households, 0.3%) and other methods (1,467 households, 3%).

Locally made traditional structures were the dominant storage method in all districts, with the highest percent of households in Rufiji using this method (69% of the total number of households storing crop products). This was followed by Kisarawe (68%), Bagamoyo (63%), Mkuranga (47%), Mafia (28%) and Kibaha (23%). (Chart 3.87).

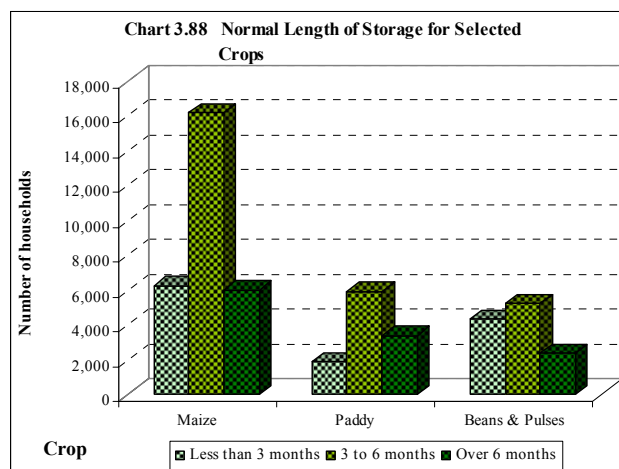
The highest percent of households using sacks and open drum was in Mafia and Kibaha districts (68% and 63% of the total number of households storing crops), followed by Bagamoyo (27%), Kisarawe (27%), Mkuranga (23%), and Rufiji (11%).



3.7.1.2 Duration of Storage

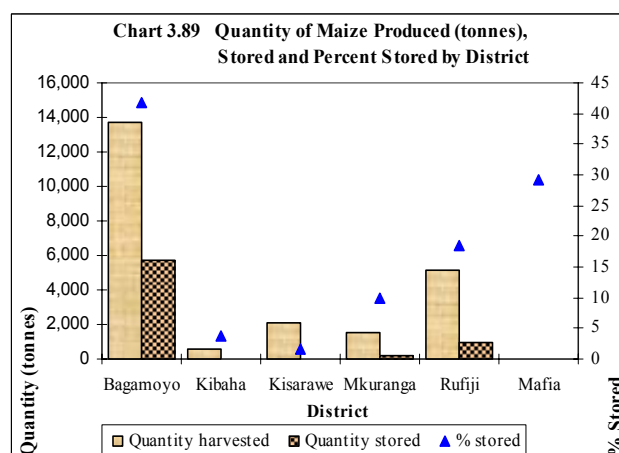
Most households (51.0% of the households storing crops) stored their produce for a period of 3 to 6 months followed by those who stored for a period of less than 3 months (27%). The minority of households stored their crop for a period of over 6 months (22%).

Most households that stored pulses stored them for a period of 3 to 6 months followed by less than 3 months. A small number of households stored pulses for the period of over 6 months (Chart 3.88).



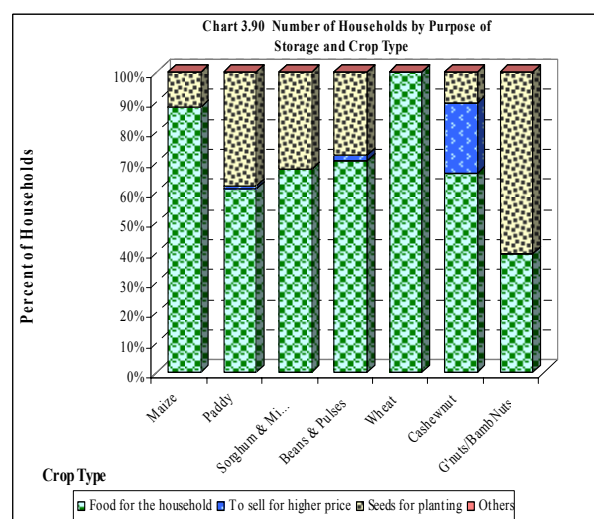
The proportion of households that stored their produce for the duration of 3 to 6 months was highest in Bagamoyo district (55%) followed by Rufiji (54%), Mkuranga (52%), Kibaha (48%), Mafia (46%) and Kisarawe (44%). (Map 3.33).

District comparison of duration of storage cannot be done for all crops combined. However, the analysis has been done for maize only as it is the most commonly stored crop. In general, quantity stored was related to the quantity produced. Districts with greater production had a higher percent of their crop stored as on 1st October 2003 (Chart 3.89). However, households in Kisarawe district stored relatively little maize in comparison to the quantity produced indicating that the quantity stored was determined by the food and seed requirement of the household and not to sell during the “off-season” when the farm gate price of maize is higher.



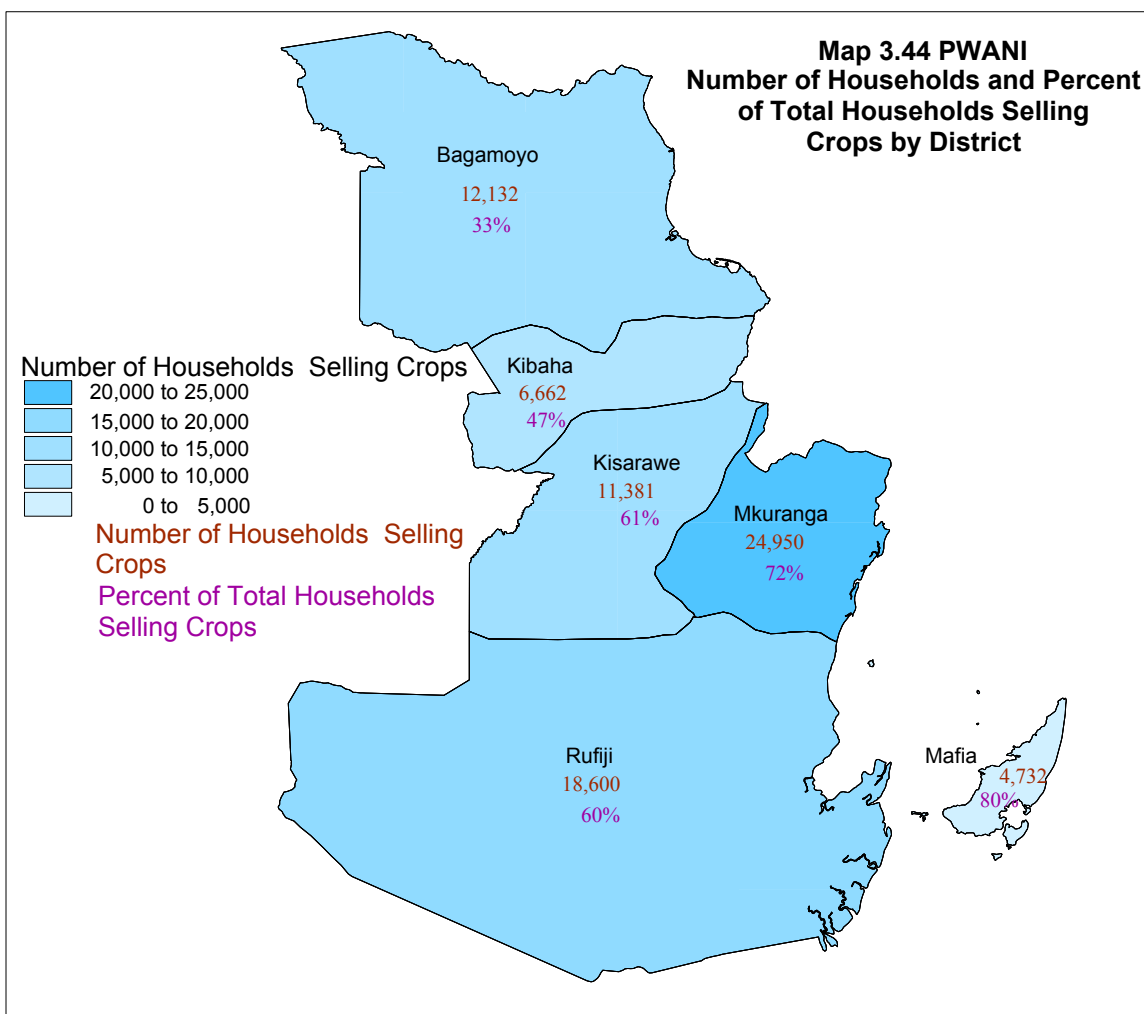
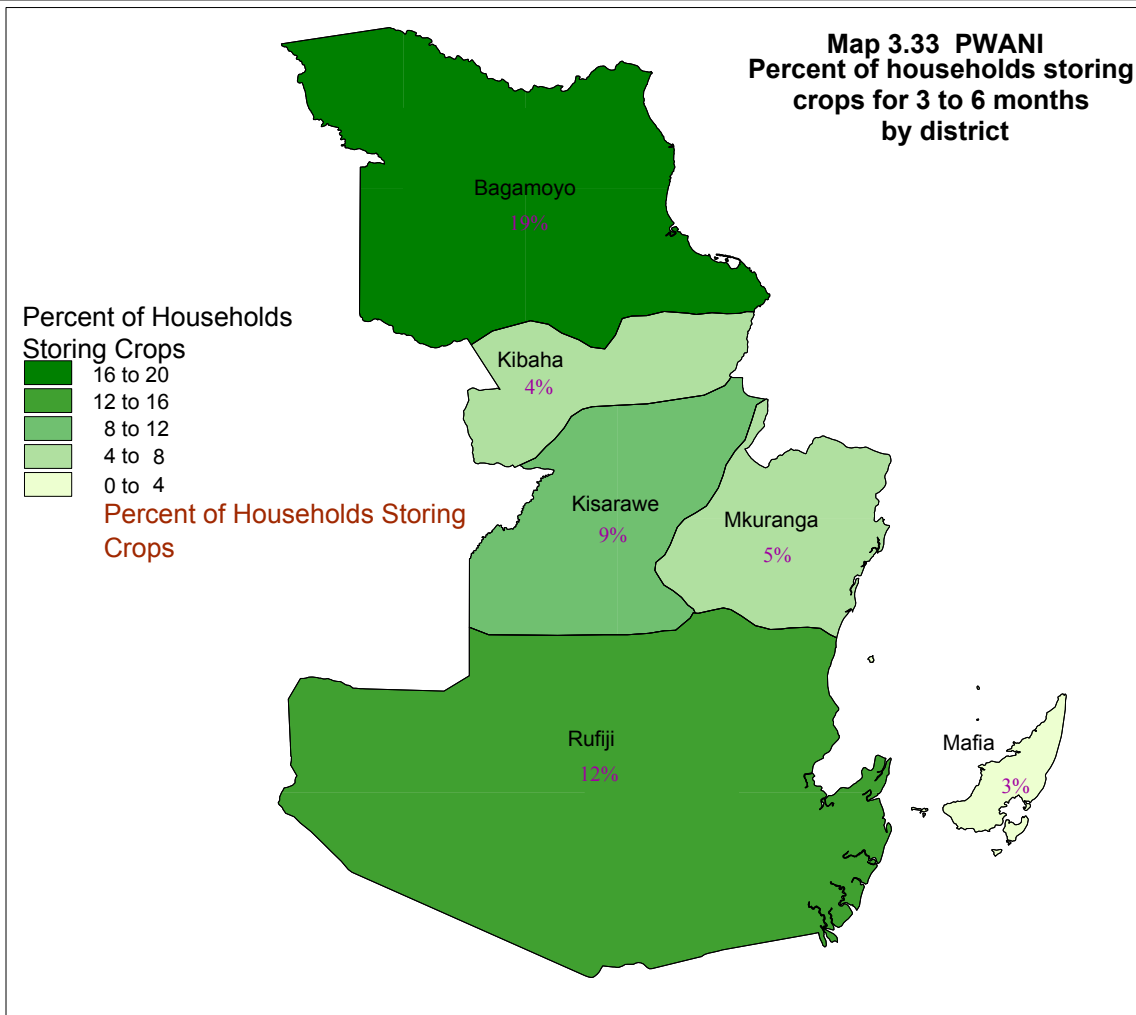
3.7.1.3 Purposes of Storage

Subsistence food crops (maize, paddy, sorghum and millet, beans and pulses) are mainly stored for household consumption. The percent of households that stored maize with household consumption as the main purpose of storage was 88.2 percent followed by seeds for planting. A high percent of the stored permanent crops was for household consumption as was the case of cashew nuts (66.2%). This was followed by selling at a higher price (23.2%)



(Chart

3.90).



3.7.1.4 The Magnitude of Storage Loss

About 76.3 percent of households that stored crops had little or no loss, however the proportion of households that experienced a loss of more than a quarter was higher for food crops than crops that are produced for sale such as cashew nuts, groundnuts and bambara nuts.

The proportion of households that reported a loss of more than a quarter was greatest for sorghum and millet (0.025% of the total number of households that stored crops). This was followed by beans and pulses (0.024%), maize (0.018%), groundnuts and paddy (0.006%). Most households that stored cash crops such as cashew nuts had little or no loss (98.6%). All households storing wheat had no storage loss (100%) (Table 3.10).

3.7.2 Agro-processing and By-products

Agro processing refers to a process that converts a crop product from one form to another form in order to add value or increase the palatability of the crop. Agro-processing was practiced in most crop growing households in Pwani region (55,704 households, 40% of the total crop growing households). (Chart 3.91a).

The percent of households processing crops was low in most districts. Kisarawe and Kibaha had the highest percent of households processing crops (77% and 44% of crop growing households respectively). (Chart 3.91b).

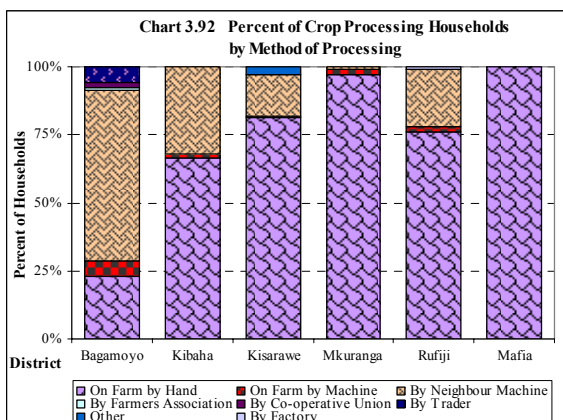
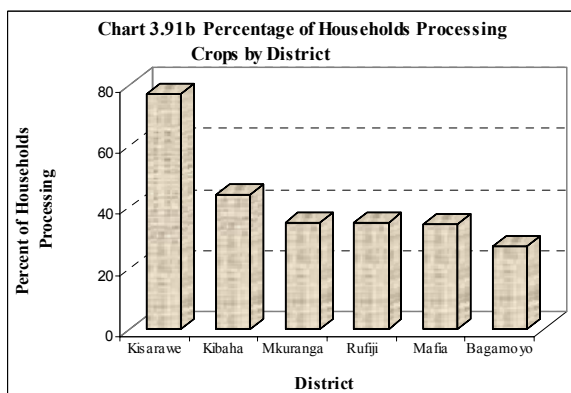
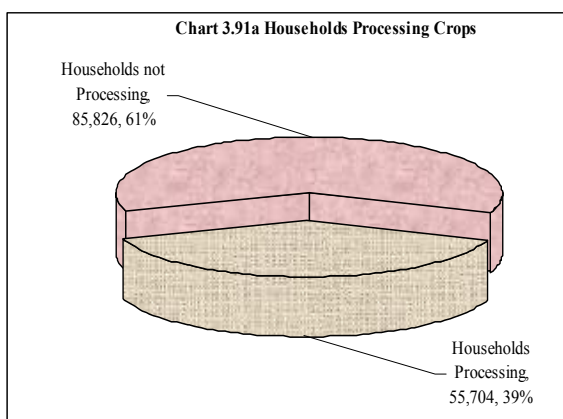
3.7.2.1 Processing Methods

Most crop processing households processed their crops on-farm by hand representing 72 percent (40,175 households). This was followed by those processing using neighbour's machines (13,010 households, 23.4%), on-farm by machine (1,183 households, 2.1%) trader (586 households, 1.1%). The remaining methods of processing were used by very few households (each less than 1%).

Although processing on-farm by hand was the most common processing method in all districts in Pwani region, district differences existed. Bagamoyo had a higher percent of processing using neighbour's machine than other districts.(63%), followed by Kibaha (32%), Rufiji (21%) and Kisarawe (15%). Processing by trader was dominated by Bagamoyo (6%), whilst processing on farm by machine was more prevalent in Bagamoyo, Mkuranga and Rufiji. (Chart 3.92).

Table 3.11: Number of Households Storing Crops by Estimated Storage Loss and District

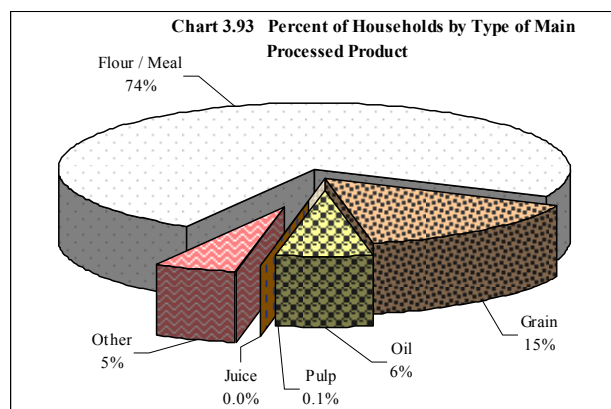
District	Estimate Storage Loss				Total
	Little or no Loss	Up to 1/4 Loss	Between 1/4 and 1/2 Loss	Over 1/2 Loss	
Bagamoyo	9,759	3,548	1,573	201	15,080
Kibaha	3,127	105	79	0	3,312
Kisarawe	7,261	426	1,265	145	9,098
Mkuranga	3,891	235	323	0	4,449
Rufiji	7,243	1,693	406	81	9,423
Mafia	2,281	272	43	17	2,614
Total	33,563	6,279	3,688	444	43,974



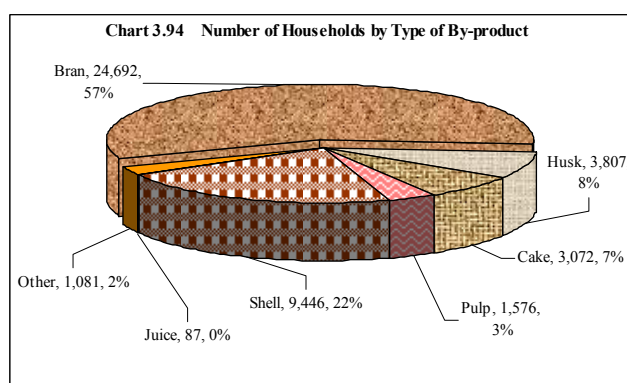
3.7.2.2 Main Agro-processing Products

Two types of products can be produced from agro-processing namely, the main product and the by-product. The main product is the major product after processing and the by-product is the secondary product after processing. For example the main product after processing maize is normally flour whilst the by-product is normally the bran.

The main processed product was flour/meal with 41,056 households processing crops into flour (74%) followed by grain with 8,234 households (15%). The remaining products were produced by a small number of households (Chart 3.93).

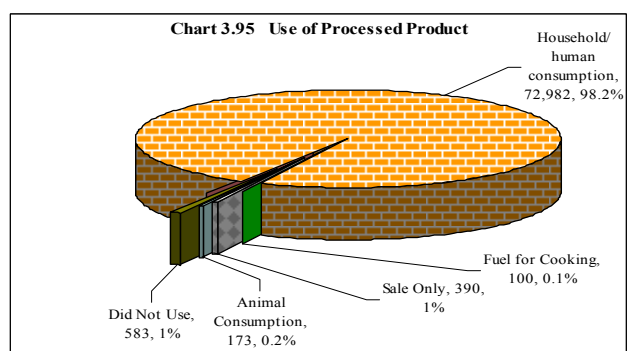


The number of households producing by-products accounted for 75 percent of the households processing crops. The most common by-product produced by crop processing households was bran with 24,692 households (57%) followed by shell (9,446 households, 22%), husk (3,807 households, 8%) and pulp (1,576 households, 3%). The remaining by-products were produced by a small number of households (Chart 3.94).

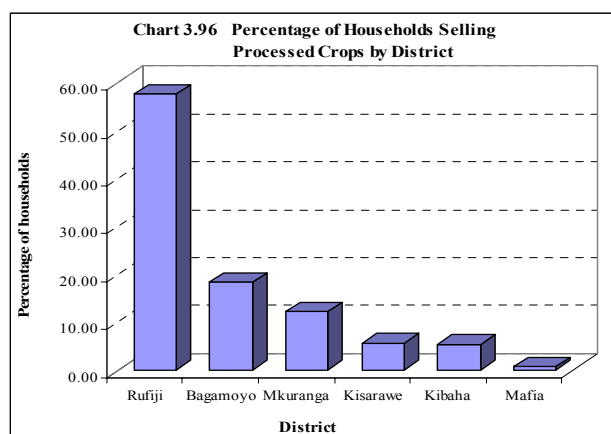


3.7.2.3 Main Use of Primary Processed Products

Primary processed products were used for households or human consumption, fuel for cooking, for selling and for animal consumption. The most important use was household/human consumption which represented 98 percent of the total households that used primary processed product (Chart 3.95). Bagamoyo was the only district that used primary products as fuel for cooking and all of it from maize crop.

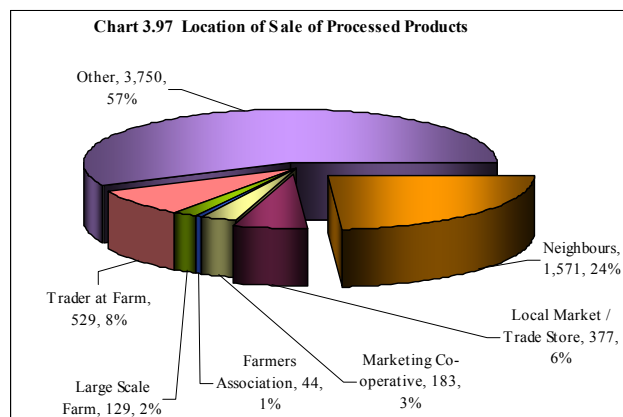


Out of 6,584 households that sold processed products, 3,799 were from Rufiji (57.7% of the total number of households selling processed products in the region), followed by Bagamoyo with 1,212 households (18.4%), Mkuranga with 805 households (12.2%), Kisarawe with 366 households (5.6%), Kibaha with 357 households (5.4%), and Mafia with 45 households (0.7%) (Chart 3.96).



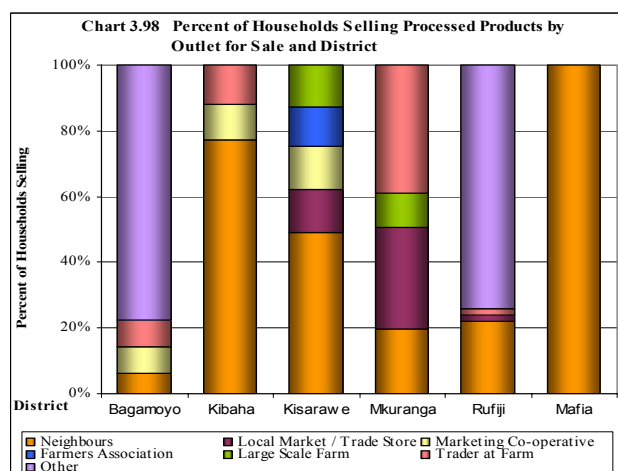
3.7.2.4 Outlets for Sale of Processed Products

Most households that sold processed products sold to other unspecified outlets (3664 households, 56% of households that sold crops). This was followed by selling to neighbours (1,571 households, 24%), trader at farm (529 households, 8%), local market and trade stores (377 households, 6%), marketing co-operatives (183 households, 3%), large scale farm (129 households, 2%) and farmers associations (44 households, 1%). (Chart 3.97).



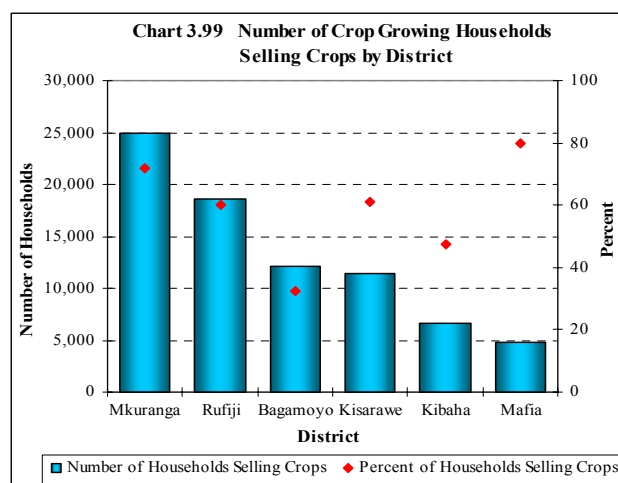
There were large differences between districts in the proportion of households selling processed products to neighbours with Mafia district having all the households in the district selling to neighbours (100%), whereas Bagamoyo had only 6 percent. Mkuranga had a higher percent of households relying on trader at farm than other outlets.

Compared to other districts, Mkuranga had the highest percent of households selling processed products to local market and trade stores. In Kisarawe, the sale of processed produce to farmer associations was most prominent compared to other districts. The districts that had the highest proportion of households selling processed products to marketing cooperative were Kisarawe, Kibaha and Bagamoyo. (Chart 3.98).



3.7.3 Crop Marketing

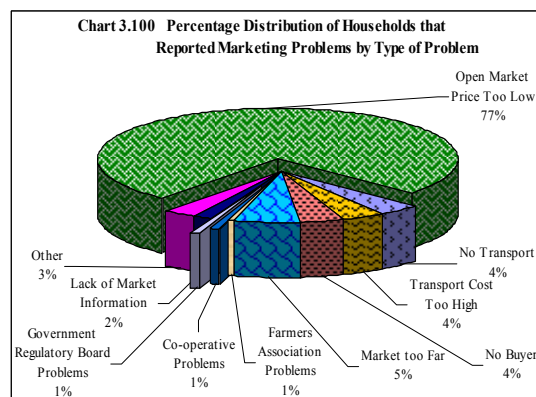
The number of households that reported selling crops was 78,458 which represented 56 percent of the total number of crop growing households. The percent of crop growing households selling crops was highest in Mafia (80%) followed by Mkuranga (72%), Kisarawe (61%), Rufiji (60%), Kibaha (47%) and Bagamoyo (33%). (Chart 3.99 and Map 3.34).



3.7.3.1 Main Marketing Problems

Low price for agricultural produce was the main marketing problem reported by households (77% of crop growing households).

Apart from low market prices, other problems were longer distances to the markets (6%), lack of transport (4%), high transport costs (4%), lack of buyers (4%) other marketing problems (3%), and lack of market information (2%).



3.7.3.2 Reasons for Not Selling Crops

The main reason for not selling crops was reported as “insufficient production to sell”, representing 54 percent of the smallholders, followed by other unspecified reasons (41%). The remaining reasons for not selling are in such low numbers that it is not appropriate to rank their importance (Table 3.12).

This general trend applies to all districts except for Kibaha and Rufiji where the proportion of households reporting other reasons for not marketing their agricultural products is relatively high (49% and 47% respectively).

Table 3.12 Reasons for Not Selling Crop Produce

Main Reason	Household Number	%
Production Insufficient to Sell	34,380	54.4
Other	25,884	41.0
Price Too Low	914	1.4
Co-operative Problems	902	1.4
Trade Union Problems	497	0.8
Government Regulatory Board Problems	353	0.6
Market Too Far	124	0.2
Farmers Association Problems	108	0.2
Total	63,161	100.0

3.8 Access to Crop Production Services

3.8.1 Access to Agricultural Credit

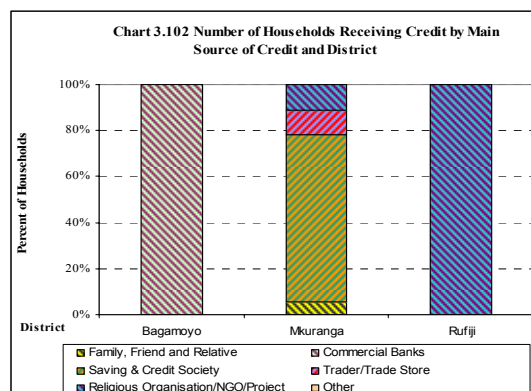
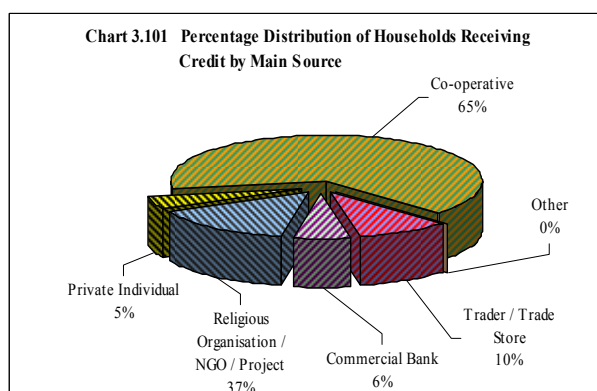
The census results show that in Pwani region very few agricultural households (1,681, 1.2%) accessed credit out of which 1,521 (90%) were male-headed households and 160 (10%) were female headed households. While no district had only female headed households getting agricultural credit whereas in Bagamoyo, and Rufiji districts only male households (100%) accessed credit. In Mkuranga district both male and female headed households accessed agricultural credit (Table 3.12).

Table 3.13 Number of Agricultural Households that Received Credit by Sex of Household Head and District

District	Male		Female		Total
	Number	%	Number	%	
Bagamoyo	98	100	0	0	98
Mkuranga	1,339	89	160	11	1,499
Rufiji	83	100	0	0	83
Total	1,521	90	160	10	1,681

3.8.1.1 Source of Agricultural Credit

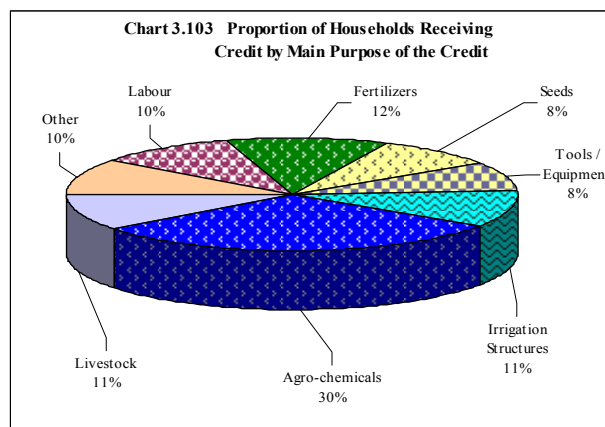
The major agricultural credit provider in Pwani region were cooperatives who collectively provided credit to 1,094 agricultural households (65% of the total number of households that accessed credit), followed by religious



organizations/non governmental organizations/ projects (15%), trader/trade store (10%), commercial bank (6%), private individuals (5%) and none from other sources (0%). (Chart 3.101). Commercial banks were the sole source of credit in Bagamoyo district and savings and credit societies were found in Mkuranga district only. Trader/trader stores were credit providers in Mkuranga district only. Religious organizations, NGO's and projects were more involved in funding a relatively great number of households in Mkuranga and Rufiji districts only. (Chart 3.102).

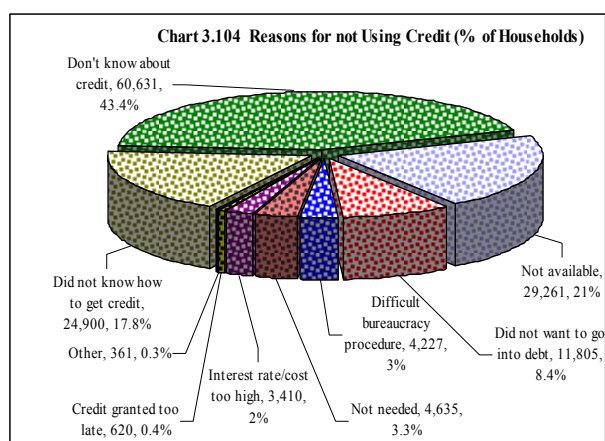
3.8.1.2 Use of Agricultural Credit

A large proportion of the agricultural credits provided to agricultural households in the region were used on agro-chemicals (30%), followed by fertilizers (12%), irrigation structures (11%), livestock (11%), hiring labour (10%), and others (10%). (Chart 3.103).



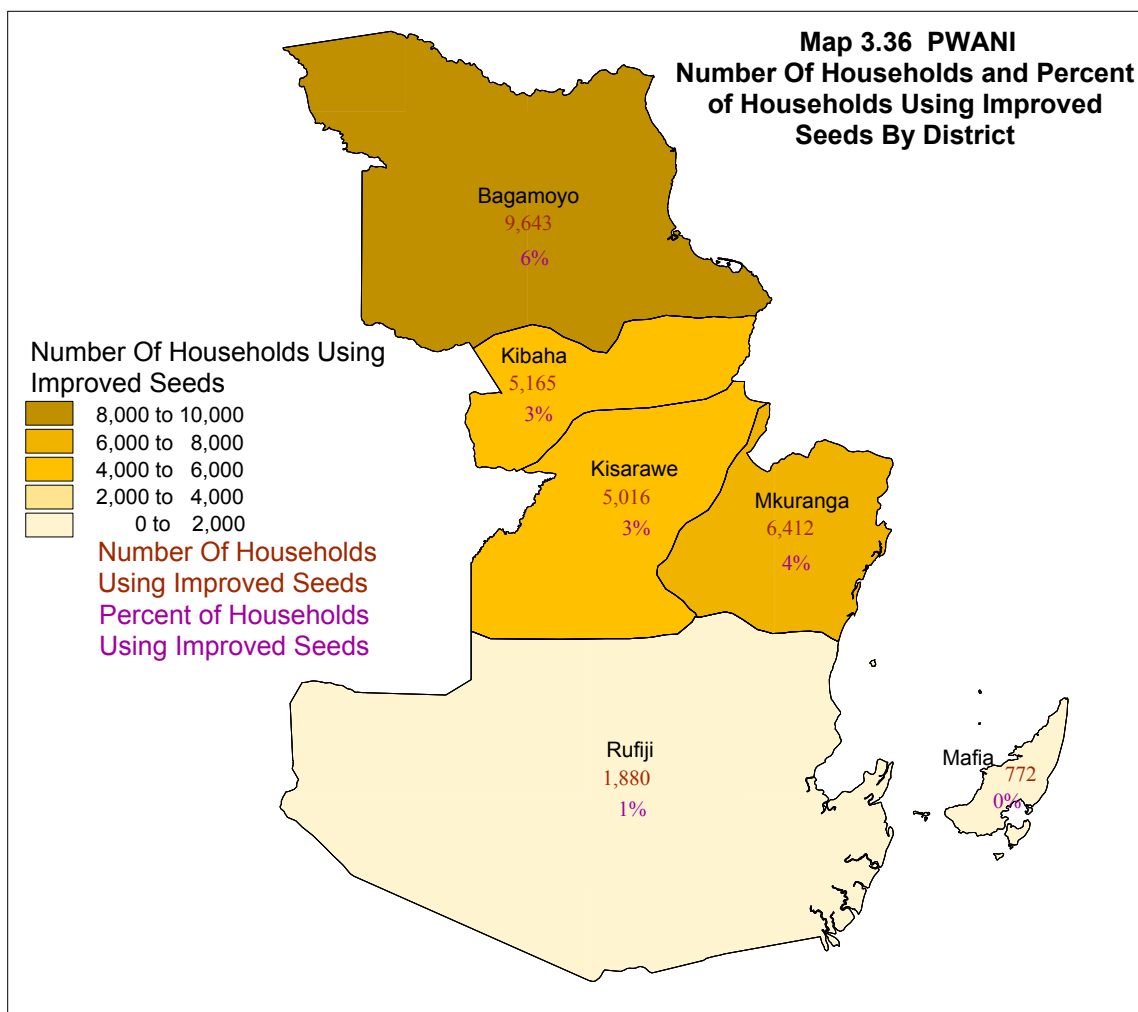
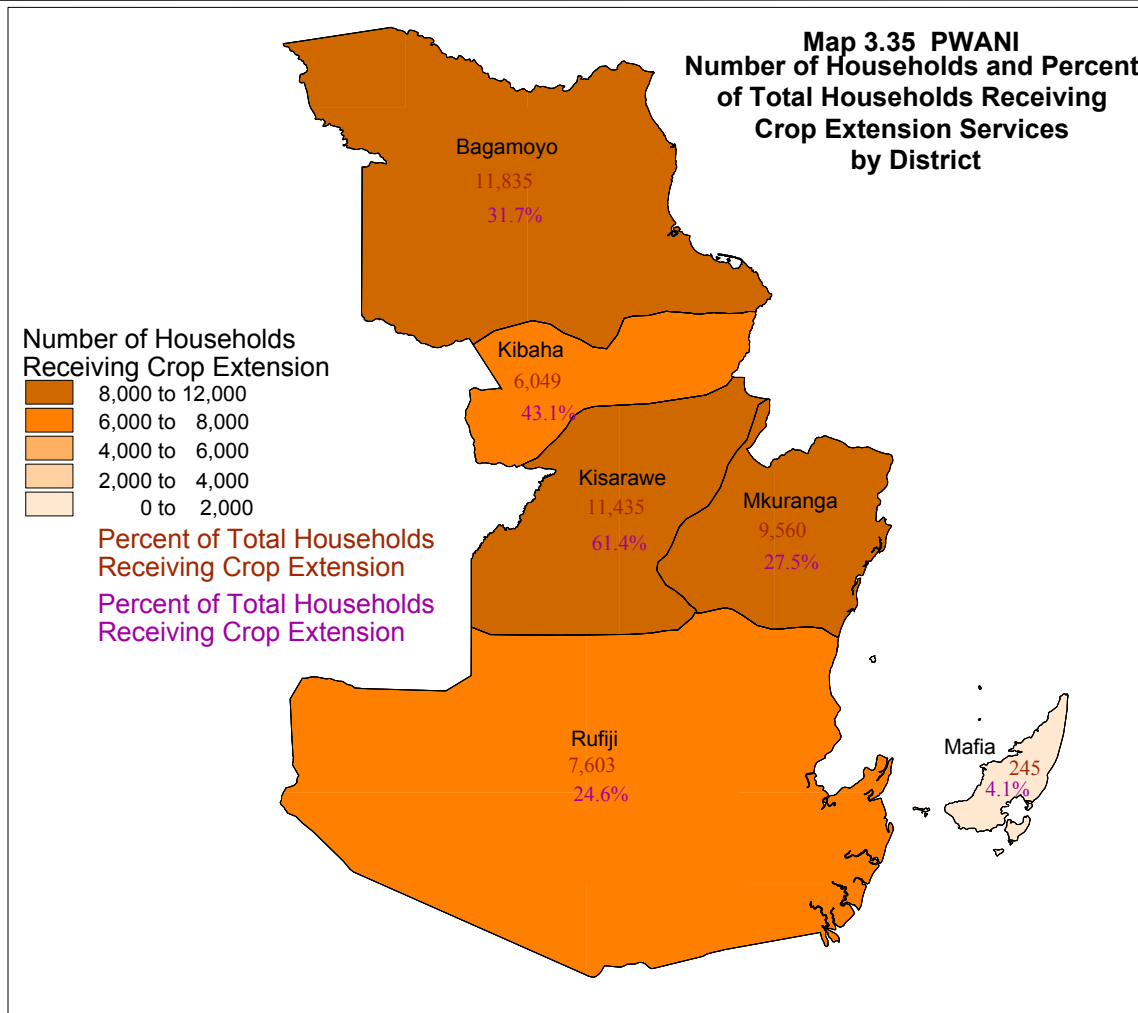
3.8.1.3 Reasons for Not Using Agricultural Credit

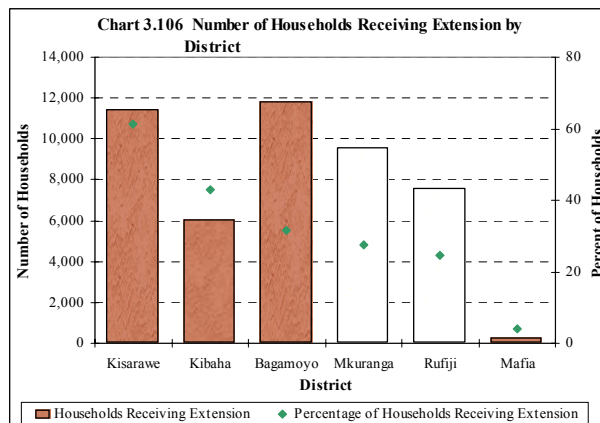
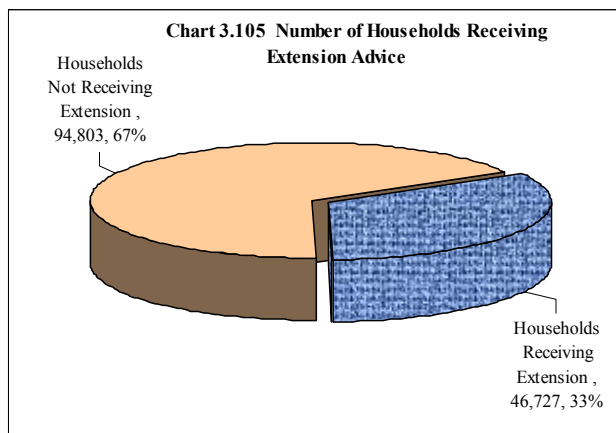
The main reason for not using agricultural credit as a source of finance was little credit awareness accounting for 61 percent of the agricultural households (“did not know how to get credit” and “don’t know about credit”). This was followed by households reporting the un-availability of credit (21%), followed by “not wanting to go into debt” (8.0%) The rest of the reasons were collectively less than 9 percent of the households.



3.8.2 Crop Extension

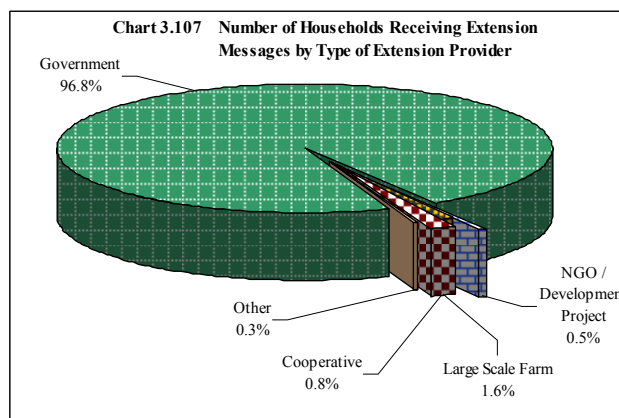
The number of agricultural households that received crop extension was 46,727 (34% of total crop growing households in the region) (Chart 3.105). Some districts had more access to extension services than others, with Kisarawe having a relatively high proportion of households (61%) that received crop extension messages in the district followed by Kibaha (43%), Bagamoyo (32%), Mkuranga (28%), Rufiji (25%) and Mafia (4%). (Chart 3.106 and Map 4.35).





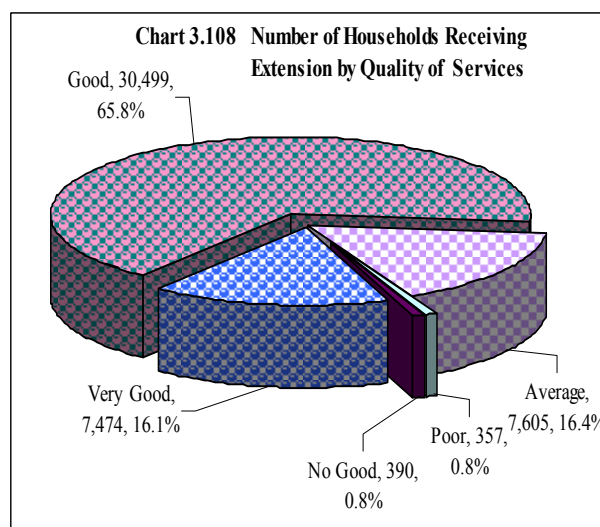
3.8.2.1 Sources of Crop Extension Messages

Of the households receiving extension advice the government provided the greatest proportion of the services (96.8%, 44,669 households) followed by large scale farms 1.6%, cooperatives 0.8%, NGOs provided 0.5%, and the remaining providers (0.3 percent (Chart 3.107). However district differences exist with the proportion of the households receiving advice from government services ranging from between 82.0 percent and 100 percent in Mafia and Rufiji respectively.



3.8.2.2 Quality of Extension

An assessment of the quality of extension indicates that 66 percent of the households receiving extension ranked the service as being good followed by average (16%), very good (16%), no good (1%) and poor (1%). (Chart 3.108). However, care should be exercised when making decisions on quality of extension and also other variables in the extension report as all the enumerators were extension agents and some degree of bias is expected.



3.9 Access to Inputs

Access to inputs in this section refers to all crop growing households in Pwani region regardless of whether the household grew annual or permanent crops. In previous sections the reference was on annual crops only. Because of this, some of the figures presented in this section may be slightly different from those in the previous section on inputs use (Section 3.5). Data on source of inputs is only found in this section and it applies to both annual and permanent crops.

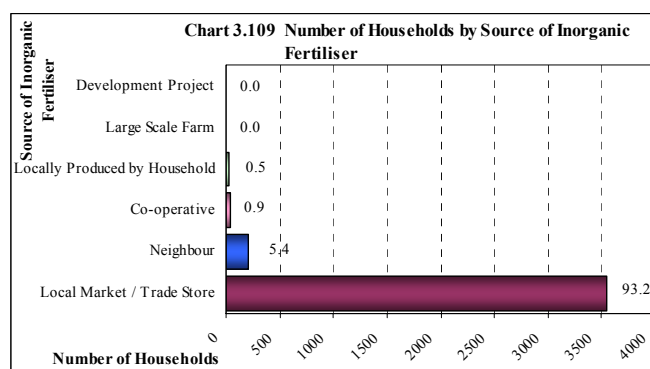
Table 3.14 Access to Inputs

Type of Input	Households With Access to Input		Households Without Access to Inputs	
	Number	%	Number	%
Improved seeds	21,121	15.1	118,323	84.9
Pesticides/Fungicide	17,019	12.2	122,425	87.8
Compost	11,417	8.2	128,027	91.8
Farm yard manure	9,311	6.7	130,133	93.3
Inorganic fertiliser	3,801	2.7	135,643	97.3
Herbicide	326	0.2	139,118	99.8

A small number of households use inputs and this is particularly true of inputs that are not produced on farm e.g. inorganic fertilizers, fungicides, and herbicides. In Pwani region, improved seeds were used by 21,121 households which represents 15 percent of the total number of crop growing households. This was followed by households using pesticides/fungicides (12%), compost (8.2%) farm yard manure (6.7%), inorganic fertilisers (2.7%), and herbicides (0.2%). (Table 3.14).

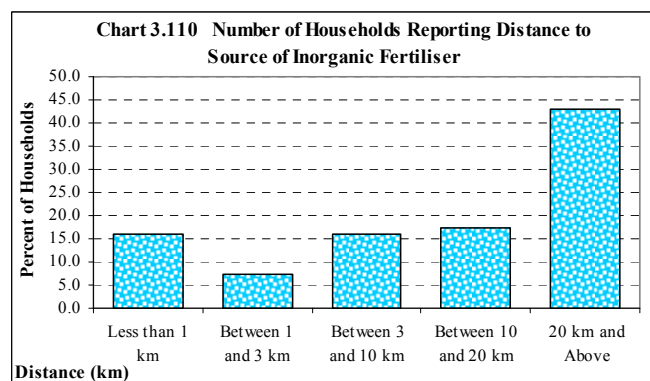
3.9.1 Inorganic Fertilisers

Smallholders that use inorganic fertiliser in Pwani mostly purchased them from the local market/trade store (93.2% of the total number of inorganic fertiliser users). The remaining sources of inorganic fertilisers were of minor importance. (Chart 3.109).



Access to inorganic fertilisers was mainly more than 10 km from the household with most households residing more than 20 km from the source (43.2%),

followed by between 10 and 20 km (17.4%) and between 3 and 10 km (16.2%) (Chart 3.110). Due to the small number of households using inorganic fertilisers coupled with the small number of households responding to “not available” (12%) as the reason for not using, it may be assumed that access to inorganic fertilisers was not the main reason for not using it. Other reasons such as cost are more important with 70 percent of households responding to cost factors as the main reason for not using. In other words, if the cost was affordable the demand would be higher and inorganic fertilisers would be made more available.



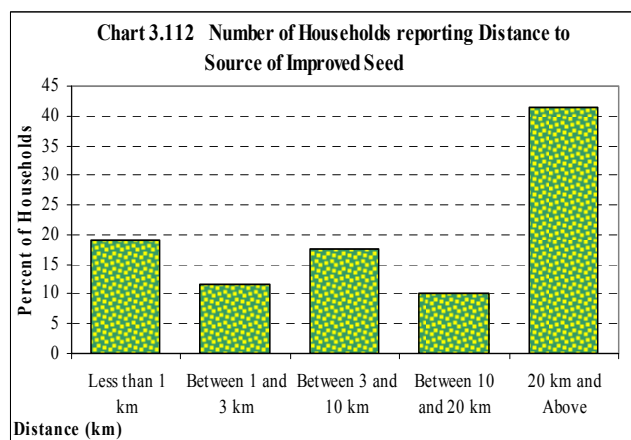
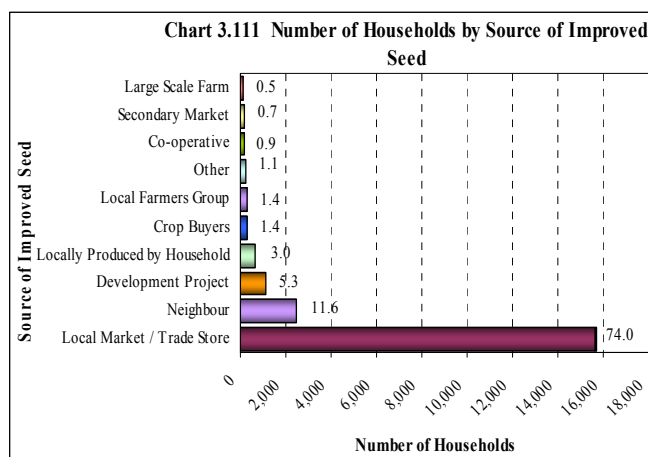
More smallholders use inorganic fertilisers in Mkuranga than in other districts in Pwani region (54% of households using inorganic fertilisers), followed by Bagamoyo (22%), and Kibaha (11%). While Mafia and Kisarawe districts use very little inorganic fertiliser, it is none for Rufiji.

3.9.2 Improved Seeds

The percent of households that use improved seeds was 15 percent of the total number of crop growing households. Most of the improved seeds were from the local market/trade store (74%). Other but less important sources of improved seeds were neighbours (11.6%), development partners (5.3%), and locally produced by household (3%). Only 0.5 percent of households using improved seeds obtained them from large scale farms. (Chart 3.111).

Access to improved seeds was slightly better than access to chemical inputs with 41 percent of households obtaining the input more than 20 km from the household. (Chart 3.112). This is in line with the higher use of improved seeds compared to other chemical inputs, which further supports the concept that it is not the availability that is the main issue in the use of inputs but rather other factors such as cost.

The districts that used improved seeds most was Bagamoyo (28.8 percent of the total number of households using improved seeds in Pwani region), followed by Mkuranga (24.8%), Kisarawe (22.4%), and Kibaha (16.2%). Use of improved seeds in Rufiji and Mafia districts is of minor importance.



3.9.3 Insecticides and Fungicides

Most smallholder households using insecticides and fungicides mainly purchased them from local markets/trade stores (55% of the total number of fungicides users), followed by local farmers' group (28%). Other sources of insecticides/fungicides were of minor importance (Chart 3.113).

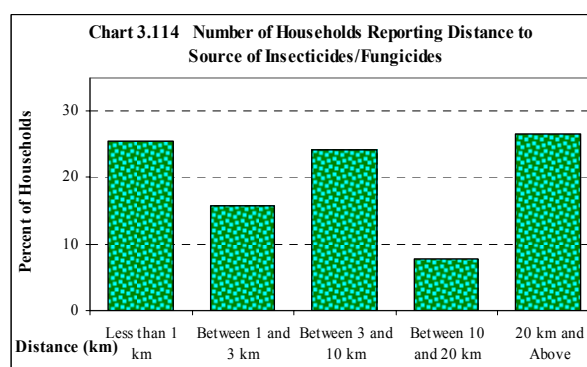
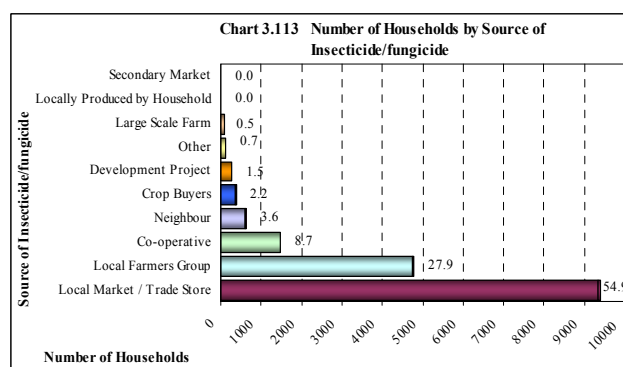


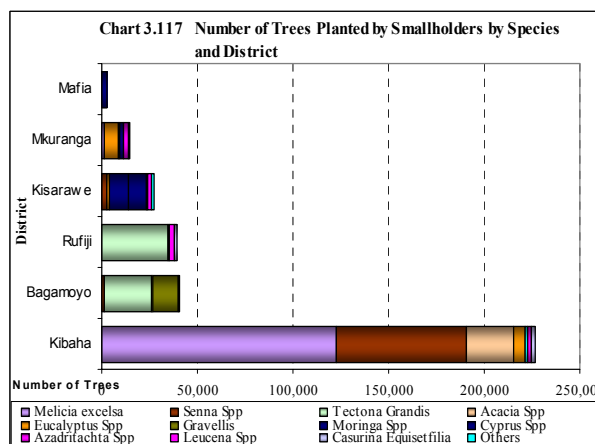
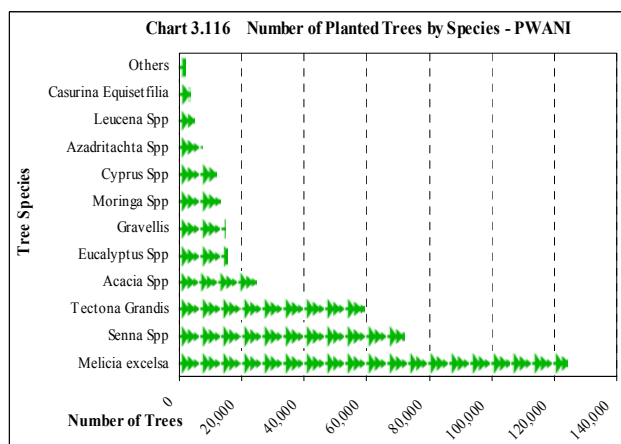
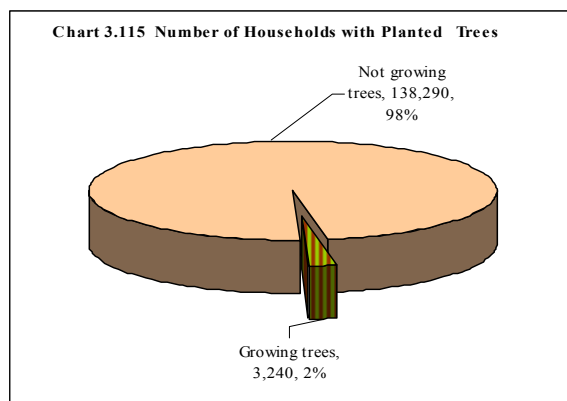
Chart 3.114 shows that there is no distinct pattern for the number of households with varying distances from the source of insecticides/fungicides. The small number of households using insecticides/fungicides coupled with the 13 percent of

households responding to “not available” as the reason for not using them, it may be assumed that access was not the main reason for not using them. Other reasons such as cost were more important with 73 percent of households responding to cost factors as the main reason for not using. In other words, if the cost was affordable, the demand would be higher and insecticides/fungicides would be made more available. Fungicides were used more in Mkuranga district (58.7 percent of the total number of households that use fungicides in the region), followed by Rufiji (12.8%), Bagamoyo (11.9%) and Kibaha (11.1%). Insecticides/fungicides use in Kisarawe and Mafia districts is of minor importance.

3.10 Tree Planting

The number of households involved in tree farming was 3,240 representing 2 percent of the total number of agriculture households (Chart 3.115).

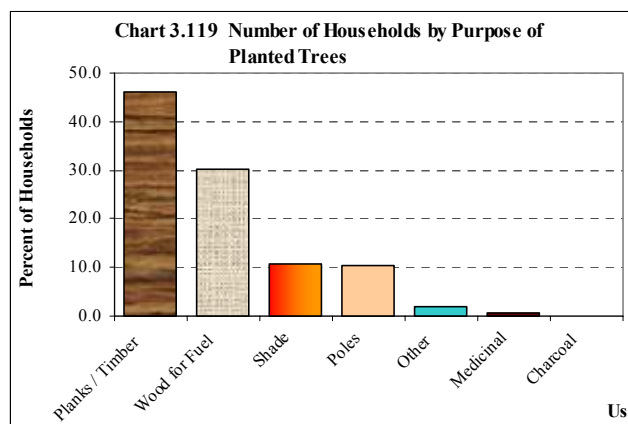
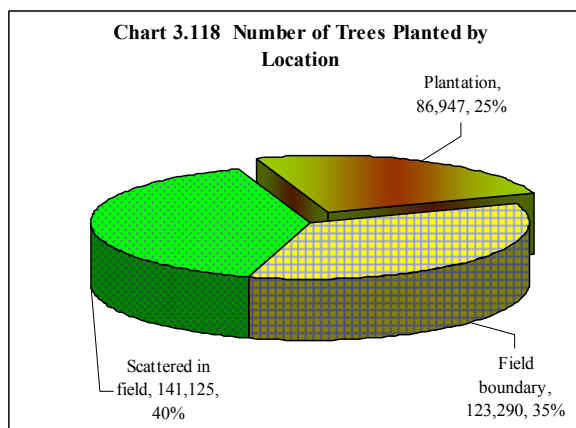
The number of trees planted by smallholders on their allotted land was 351,510 trees. The average number of trees planted per household planting trees was 109 trees.



The main species planted by smallholders is Melicia excelsa (124,182 trees, 35.3%), followed by Senna Spp (71,987, 20.5%), then Tectona Grandis (59,168, 16.8%), Acacia Spp (24,479 trees, 7%), Eucalyptus Spp (15,570, 4.4%), Gravellis (14,480, 4.1%), Moringa Spp (12,936, 3.7%) and Cyprus Spp (11,693, 3.3%). The remaining trees species are planted in comparatively small numbers (Chart 3.116). Kibaha has the largest number of smallholders with planted trees than any other district (64.5%) and is dominated by Melicia excelsa. This is followed by Bagamoyo (11.6%) which is dominated by Tectona Grandis and Gravellis, Rufiji (11.2%) dominated by Tectona Grandis, Kisarawe (7.7%) which is mainly planted with Moringa Spp and Mkuranga (4.1%) which is dominated by Eucalyptus Spp. (Chart 3.117 and Map 3.37.).

Smallholders mostly plant trees scattered around fields. The proportion of households that plant trees scattered around fields is 40 percent, followed by planted on boundary of fields (35%) and then trees planted in a plantation or coppice (25%) (Chart 3.118).

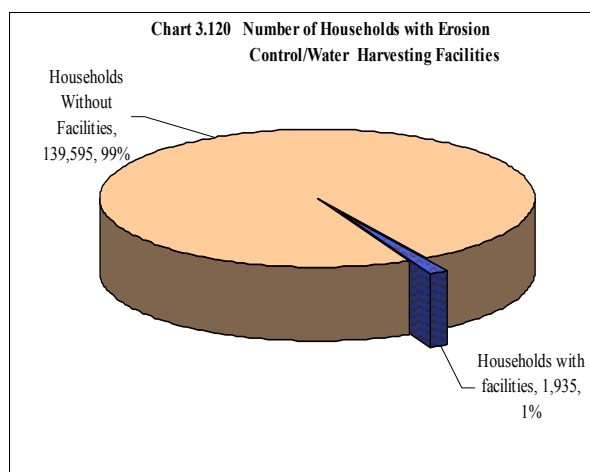
The main purpose of planting trees is to obtain planks/timber (46.2%). This is followed by wood for fuel (30.1%), shade (10.8%), poles (10.5%), other purposes (2.0%), and medicinal (0.6%). (Chart 3.119).



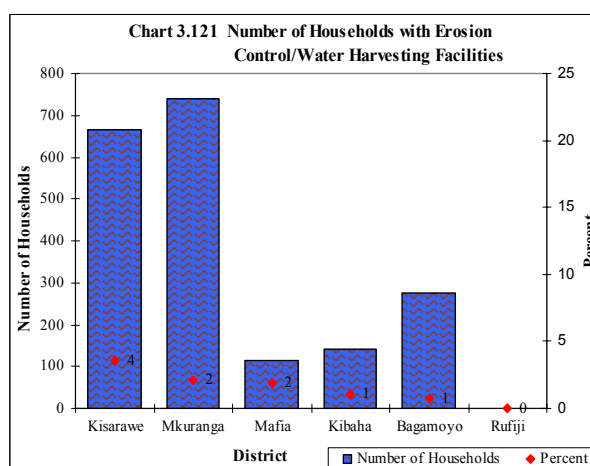
3.11 Irrigation and Erosion Control Facilities

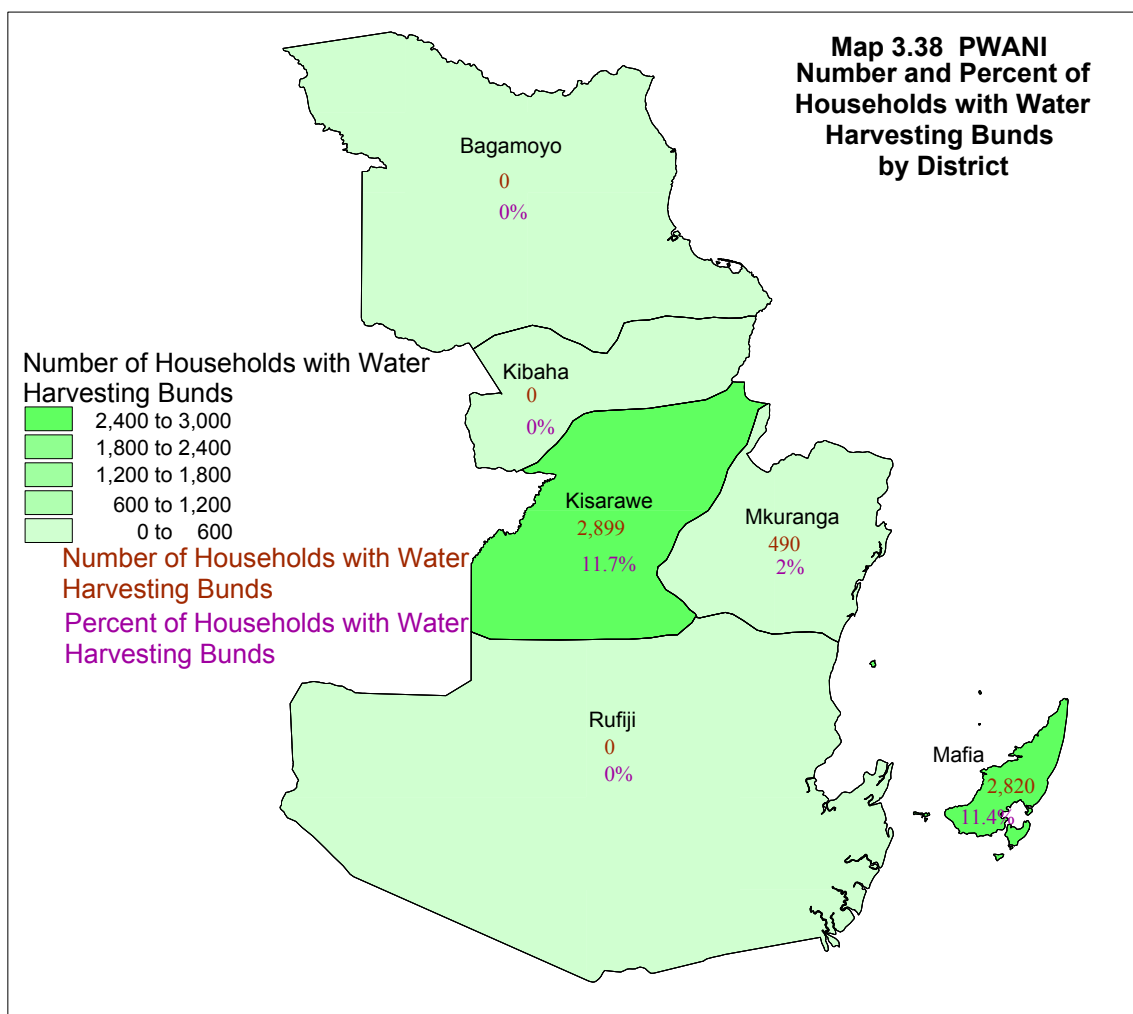
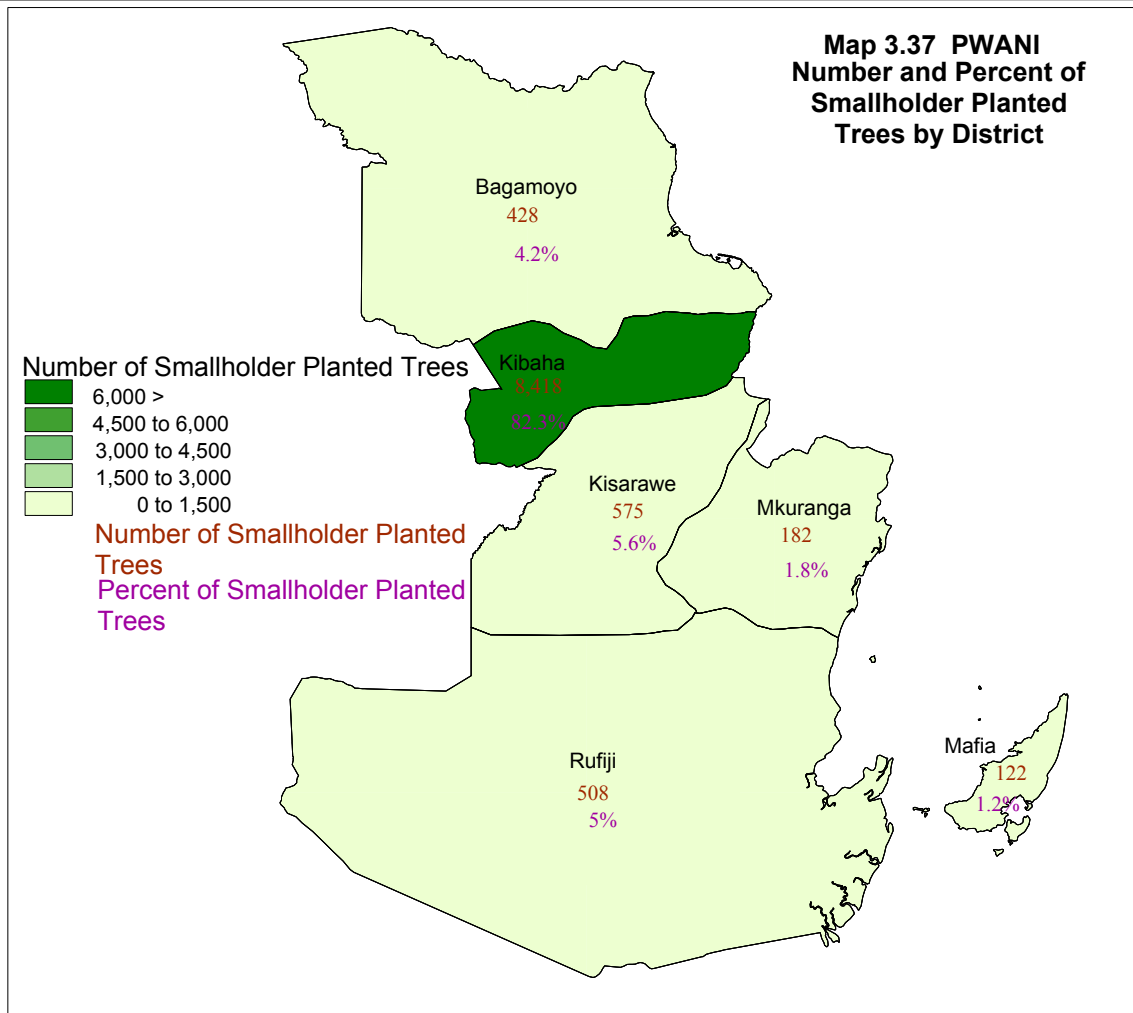
Erosion control and water harvesting facilities are grouped together as they normally have dual purposes of reducing erosion and increasing the amount of water available for crop production.

The number of agricultural households that had soil erosion and water harvesting facilities on their farms was 1,935 which represents 1 percent of the total number of agricultural households in the region (Chart 3.120).



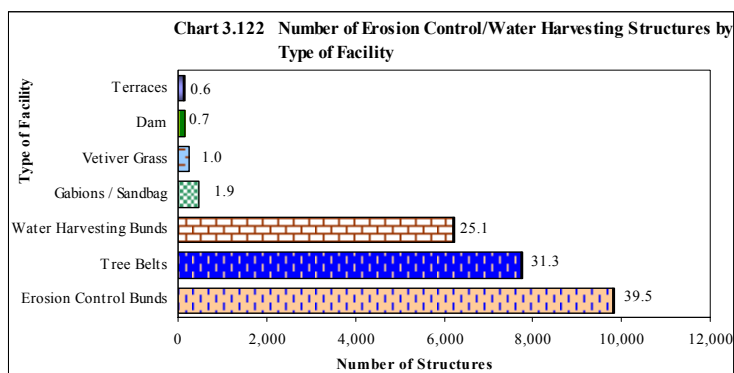
The proportion of households with soil erosion control and water harvesting facilities was highest in Kisarawe district (4%) followed by Mkuranga (2%), Mafia (2%), Kibaha (1%), Bagamoyo (1%) and none in Rufiji. (Chart 3.121). Erosion control bunds accounted for 39.5 percent of the total number of structures, followed by Tree belts (31.3%), water harvesting bunds (25%), Gabions (1.9%), Vetiver (1.0%), Dam (0.7%) and Terraces (0.6%). (Chart 3.122 and Map 3.38).





Erosion control bunds, tree belts and water harvesting bunds together had 23,758 structures. This represented 96 percent of the total structures in the region. The remaining 4 percentage were shared among the rest of the erosion control methods mentioned above.

Mkuranga, Mafia and Kibaha districts had 19,049 erosion control structures (77 percent of the total erosion structures in the region).



3.12 LIVESTOCK RESULTS

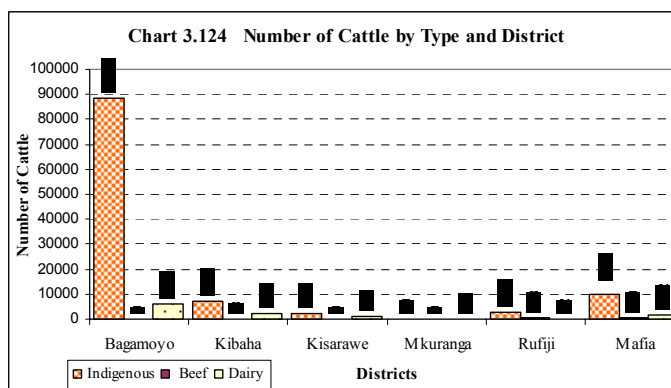
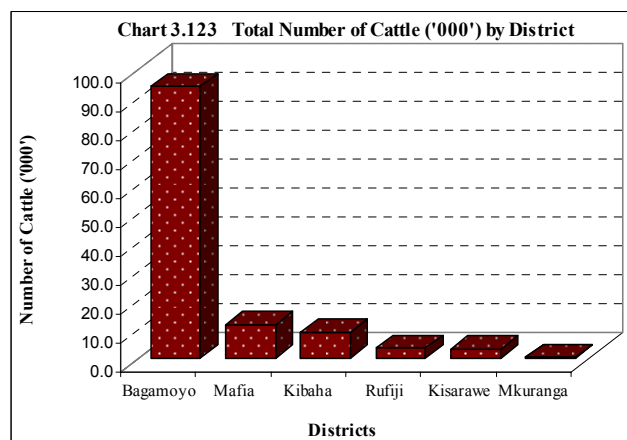
3.12.1 Cattle Production

The total number of cattle in the region was 122,308. Cattle are the dominant livestock type in the region followed by goats, sheep and pigs. The region had 0.7 percent of the total cattle population on Tanzania Mainland.

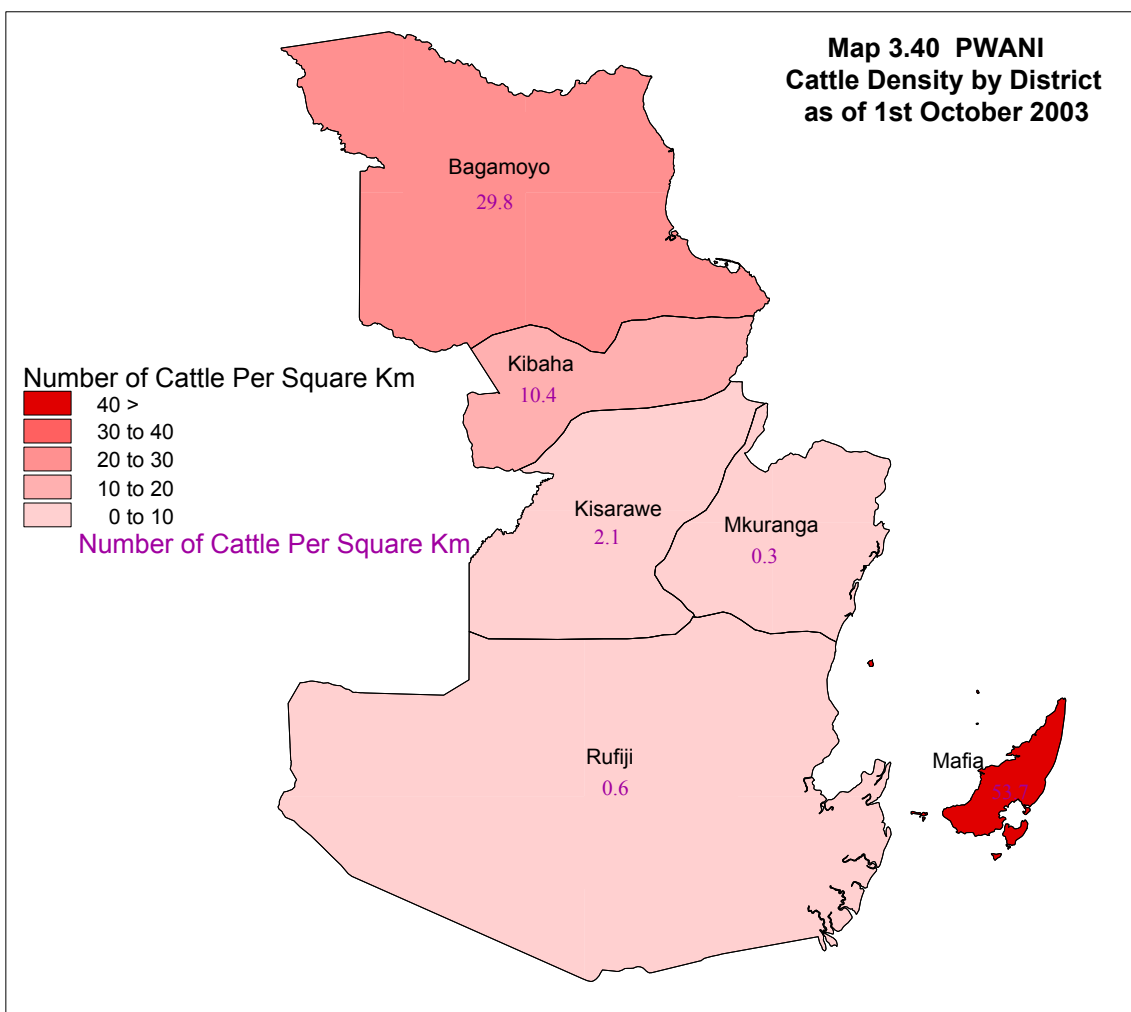
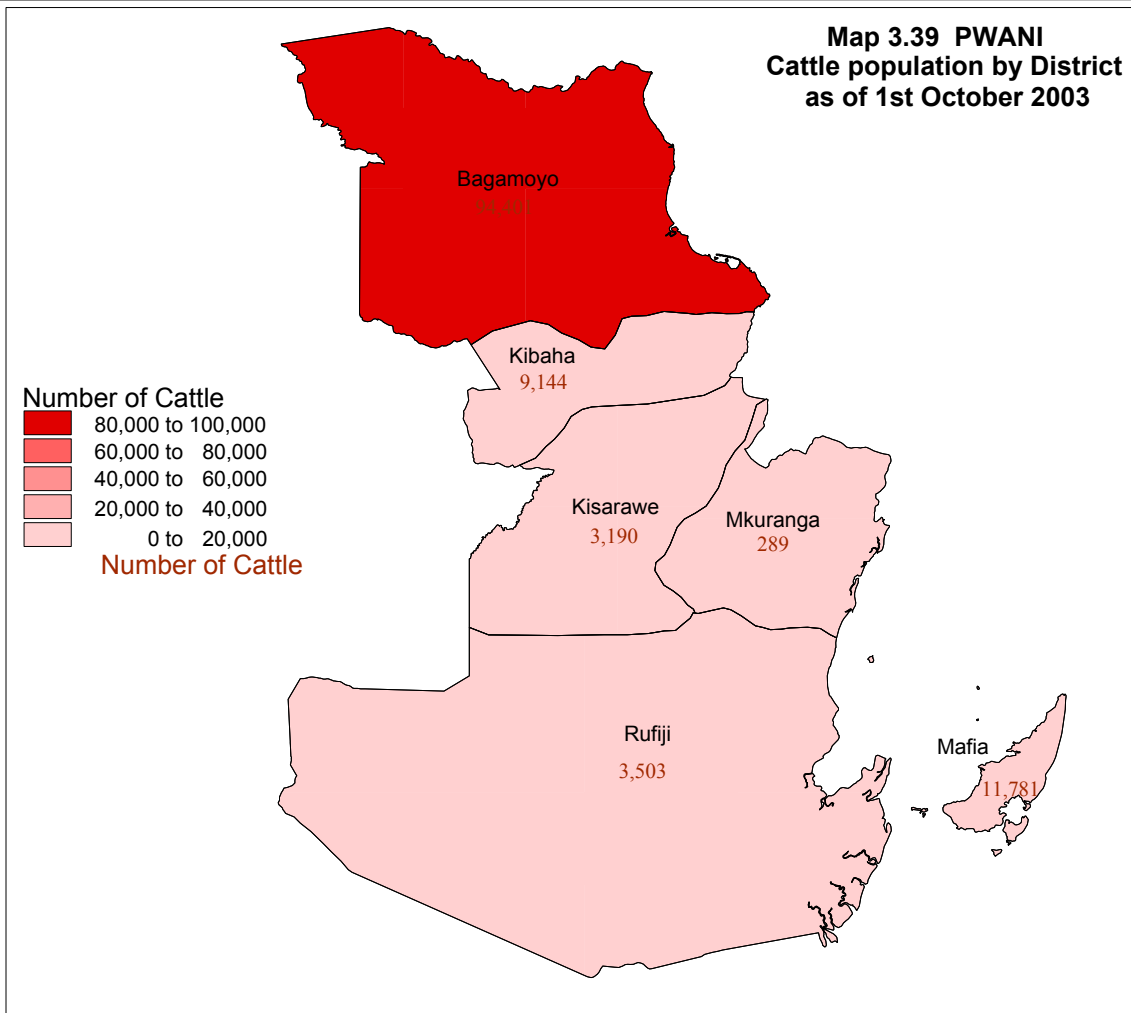
3.12.1.1 Cattle Population

The number of indigenous cattle in Pwani region was 110,360 (90.2% of the total number of cattle in the region), 10,809 cattle (8.8%) were dairy breeds and 1,140 cattle (0.9%) were beef breeds.

The census results show that 5,568 agricultural households in the region (4% of total agricultural households) kept 0.12 million cattle. This was equivalent to an average of 22 heads of cattle per cattle-keeping-household. The district with the largest number of cattle was Bagamoyo which had about 94,401 cattle (77.2% of the total cattle in the region). This was followed by Mafia (11,781 cattle, 9.6%), Kibaha (9,144 cattle, 7.5%), Rufiji (3,503 cattle, 2.9%), and Kisarawe (3,190 cattle, 2.6%). Mkuranga district had the least number of cattle (289 cattle, 0.2%) (Chart 3.123 and Map 3.39). However Mafia district had the highest density (54 head per km²) (Map 3.40).



Although Bagamoyo district had the largest number of cattle in the region, most of them were indigenous. The number of dairy cattle was very small and no beef cattle were recorded. However, the district had the largest number of dairy cattle in the region. In general, the number of beef cattle in the region was insignificant (0.9%). (Chart 3.124).

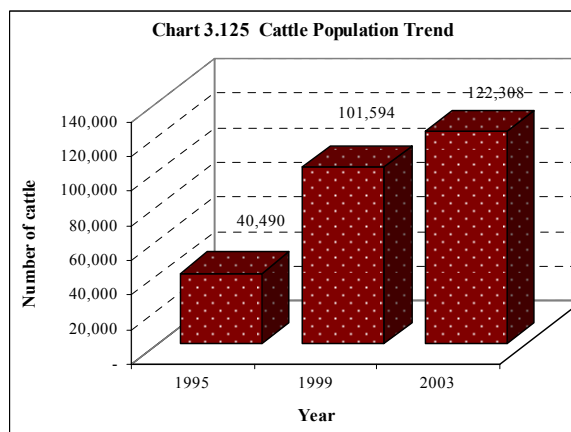


3.12.1.2 Herd Size

Forty percent of the cattle-rearing households had herds of size 1-5 cattle with an average of three cattle per household. Herd sizes of 6-30 accounted for about 23% percent of all cattle in the region. Only 17 percent of the cattle rearing households had herd sizes of 31- 100 cattle. About 79 percent of total cattle rearing households had herds of size 1-30 cattle and owned 28 percent of total cattle in the region, resulting in an average of 8 cattle per cattle rearing household. There were about 102 households with a herd size of more than 151 cattle each (23,405 cattle in total) resulting in an average of 229 cattle per household.

3.12.1.3 Cattle Population Trend

Cattle population in Pwani increased during the eight-year period from 40,490 in 1995 to 122,308 cattle in 2003. This trend depicts an overall annual positive growth rate of 14.8 percent. (Chart 3.125).



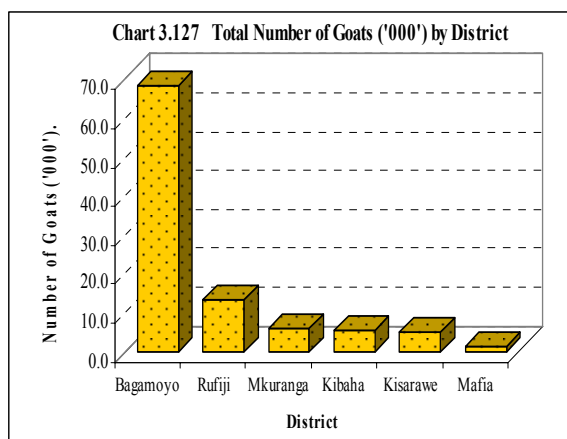
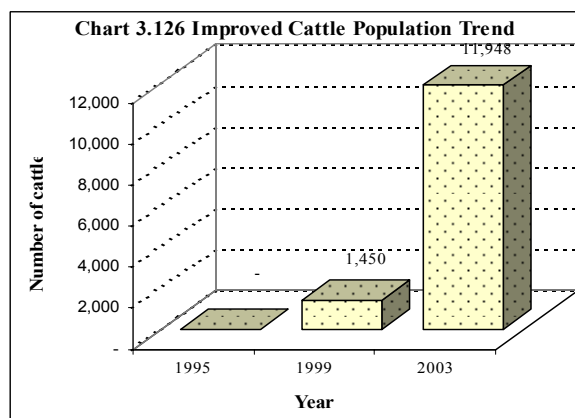
There was a very sharp increase in number of cattle during the four-year period from 1995 to 1999 at the rate of 25.9 percent whereby the number increased from 40,490 to 101,594. Also, the number of cattle is estimated to have increased moderately from 101,594 in 1999 to 122,308 in 2003 at the rate of 4.7 percent.

3.12.1.4 Improved Cattle Breeds

The total number of improved cattle in Pwani region was 11,948 (10,809 dairy and 1,140 improved beef). The dairy cattle constituted 8.8 percent of the total cattle and 90.5 percent of improved cattle in the region. The number of beef cattle in the region was insignificant constituting only 9.5 percent of the total number of the improved cattle and 0.9 percent of the total cattle. The number of improved cattle increased drastically from 1,450 in 1999 to 11,948 in 2003 at an annual growth rate of 69.4 percent. (Chart 3.126).

3.12.2. Goat Production

Goat rearing was the second most important livestock keeping activity in the region followed by sheep and pig rearing. In terms of total number of goats on the Mainland, Pwani region ranked 20th out of the 21 regions with 0.8 percent of the total goats on the Mainland.



3.12.2.1 Goat Population

The number of goat-rearing-households in Pwani region was 7,621 (5% of all agricultural households in the region) with a total of 98,604 goats giving an average of 13 head of goats per goat-rearing-household. Bagamoyo had the largest number of goats (68,472 goats, 69.4% of all goats in the region), followed by Rufiji (13,406 goats, 13.6%), Mkuranga (5,714 goats, 5.8%), Kibaha (5,226 goats, 5.3%) and Kisarawe (4,847 goats, 5%). Mafia district had the least number of goats (940 goats, 1%). (Chart 3.127 and Map 3.41). However Bagamoyo district had the highest density (21.6 head per km²) (Map 3.42).

3.12.2.2 Goat Herd Size

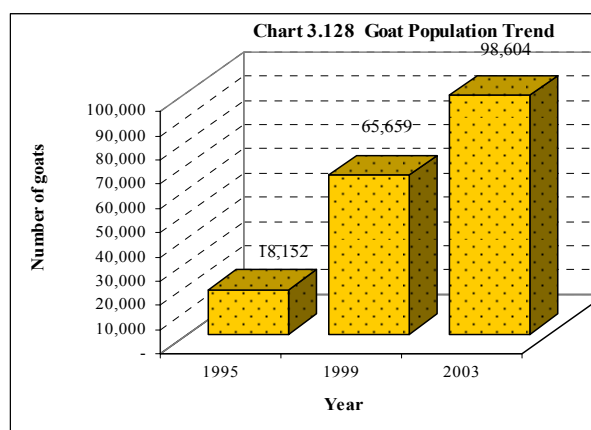
Thirty-three percent of the goat-rearing households had herds of 1-4 goats with an average of 2 goats per goat rearing household. Seventy-seven percent of total goat-rearing households had herds of 1-14 goats and owned 37 percent of the total goats in the region resulting in an average of 6 goats per goat-rearing households. The region had 678 households (9%) with herds of 40 or more goats each (39,616 goats in total), resulting in an average of 58 goats per household.

3.12.2.3 Goat Breeds

Goat husbandry in the region was dominated by the indigenous breeds that constituted 98.7 percent of the total goats in Pwani region. Improved goats for meat and diary goats constituted 0.4 and 0.9 percent of total goats respectively.

3.12.2.4 Goat Population Trend

The overall annual growth rate of goat population from 1995 to 2003 was 23.6 percent. This positive trend implies eight years of population increase from 18,152 in 1995 to 98,604 in 2003. The number of goats increased from 18,152 in 1995 at an estimated annual rate of 37.9 percent to 65,659 in 1999. From 1999 to 2003, the goat population increased at an annual rate of 10.7 percent. (Chart 3.128).

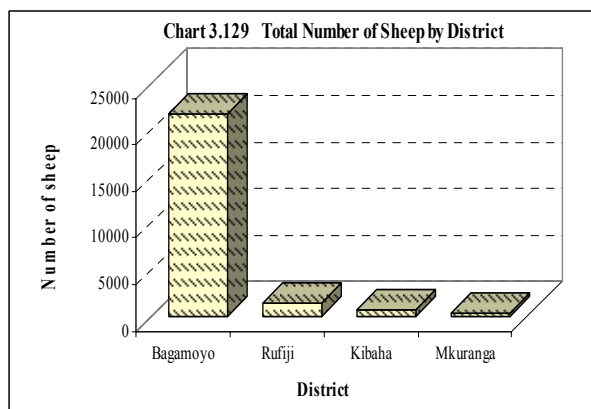


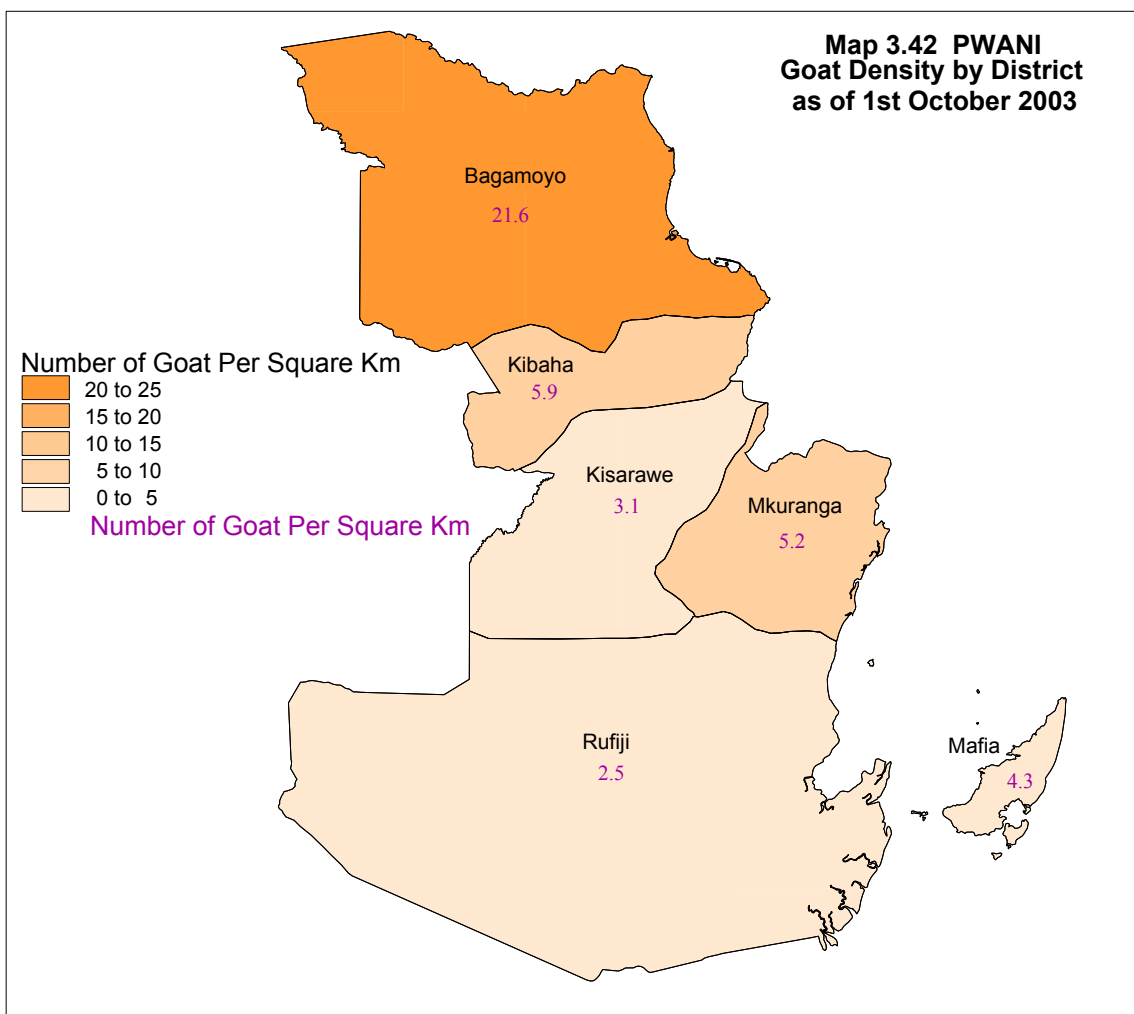
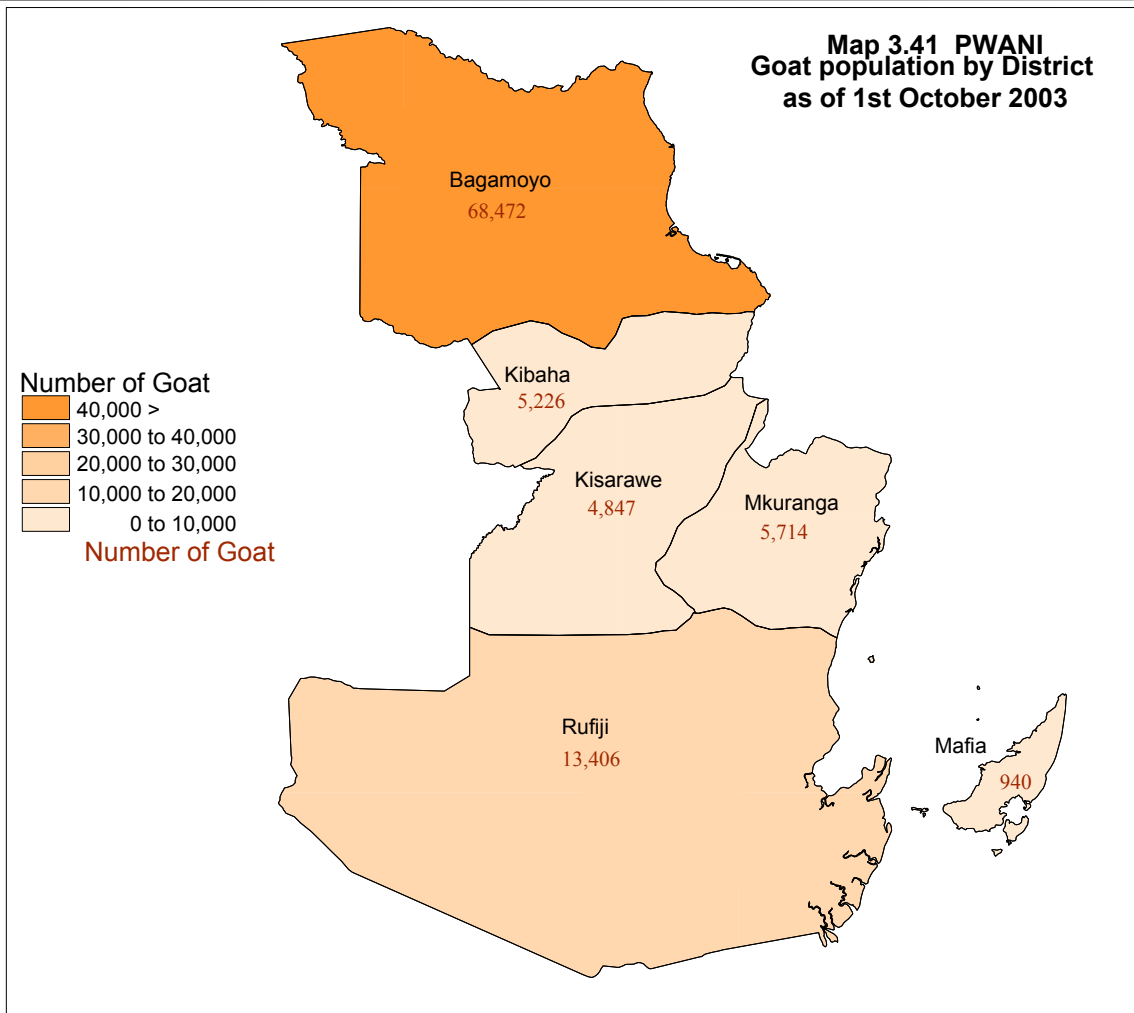
3.12.3. Sheep Production

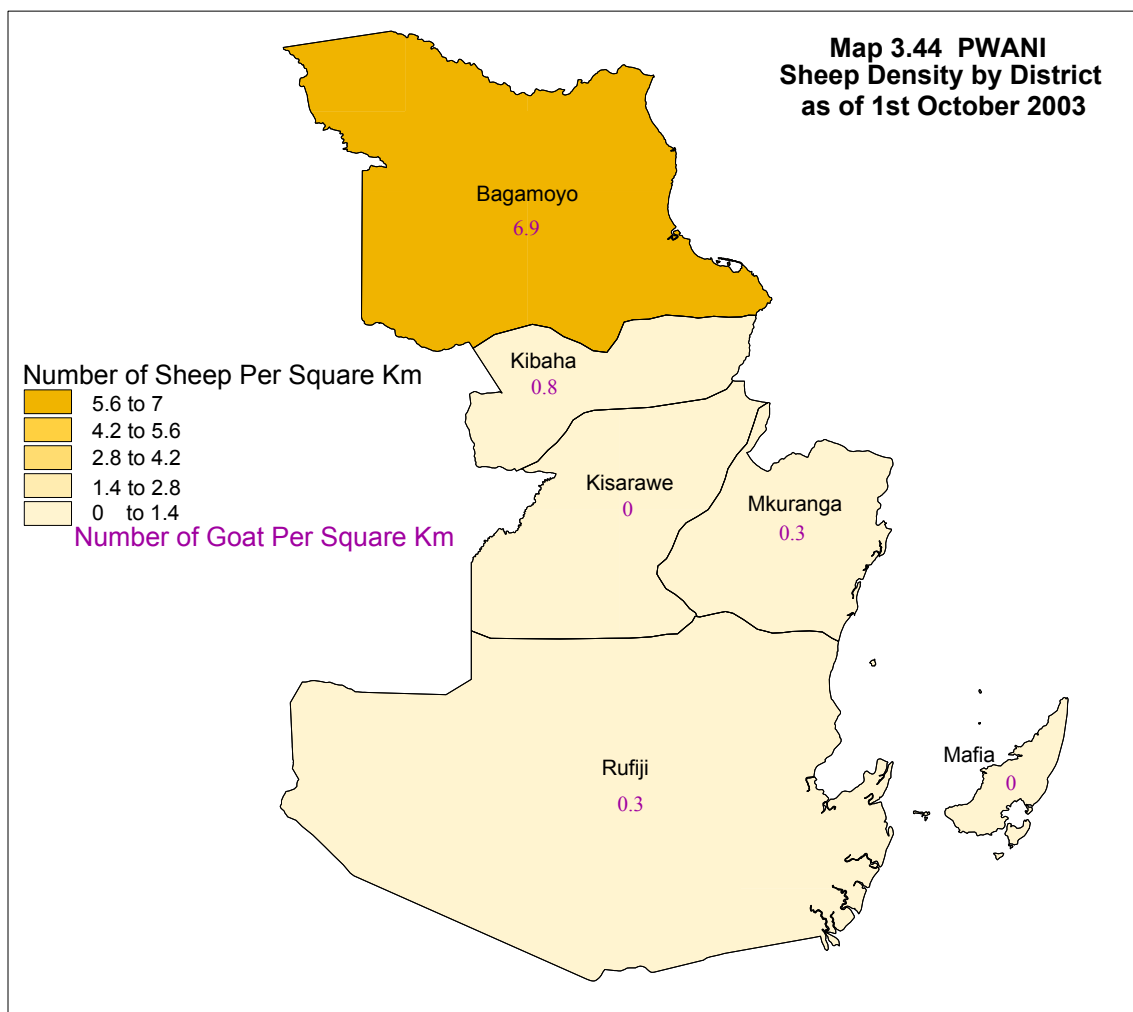
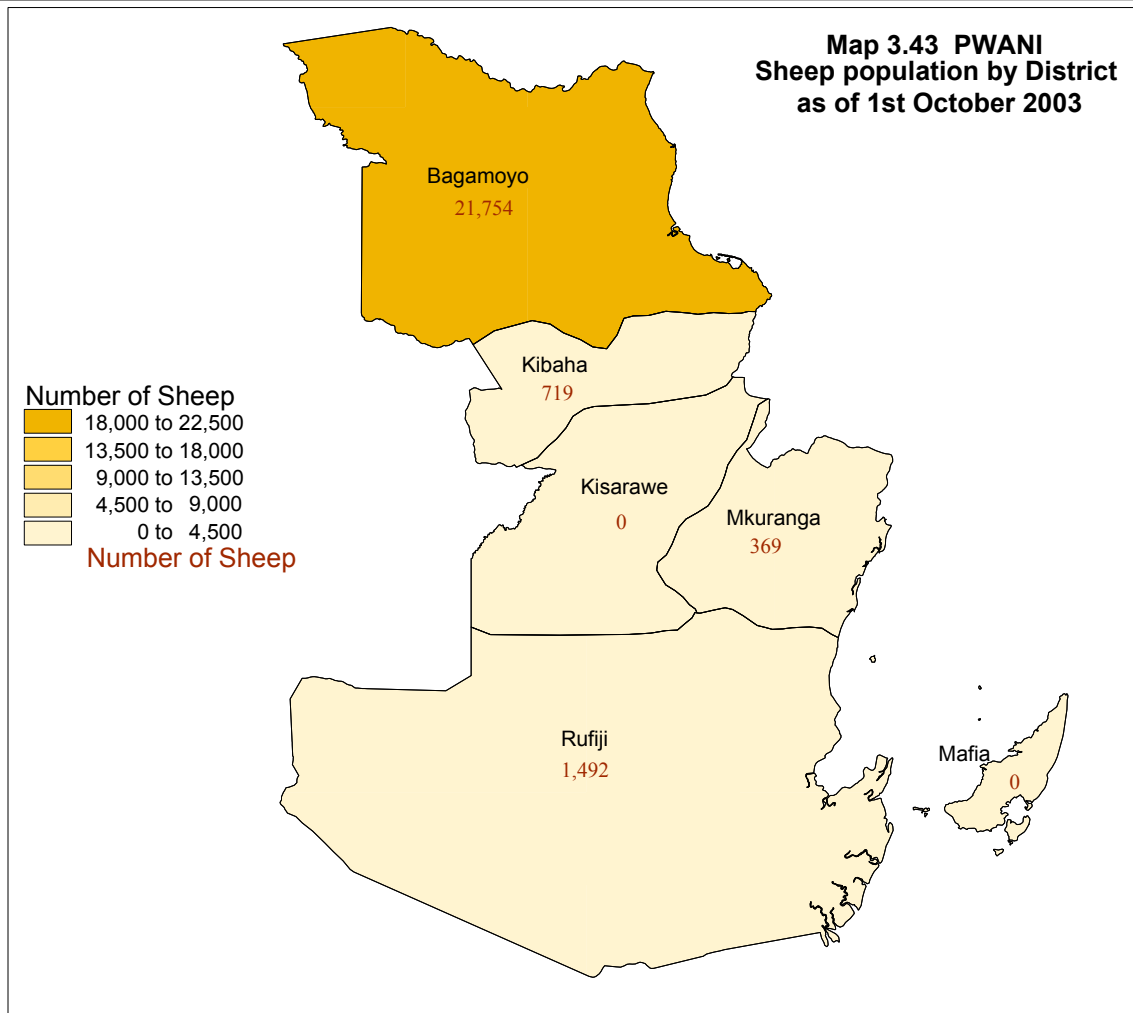
Sheep rearing was the third most important livestock keeping activity in Pwani region after cattle and goats. The region ranked 19 out of 21 Mainland regions and had 0.6 percent of all sheep on Tanzania Mainland.

3.12.3.1 Sheep Population

The number of sheep-rearing households was 1,503 (1.06% of all agricultural households in Pwani region) rearing 24,334 sheep, giving an average of 16 heads of sheep per sheep-rearing household. The district with the largest number of sheep was Bagamoyo with 21,754 sheep (89.4% of total sheep in Pwani region) followed by Rufiji (1,492 sheep, 6.1%), Kibaha (719 sheep, 3%). Mkuranga District had the least number of sheep (369 sheep, 1.5%). (Chart 3.129 and Map 3.43). Bagamoyo district also had the highest density (7 head per km²) (Map 3.44).



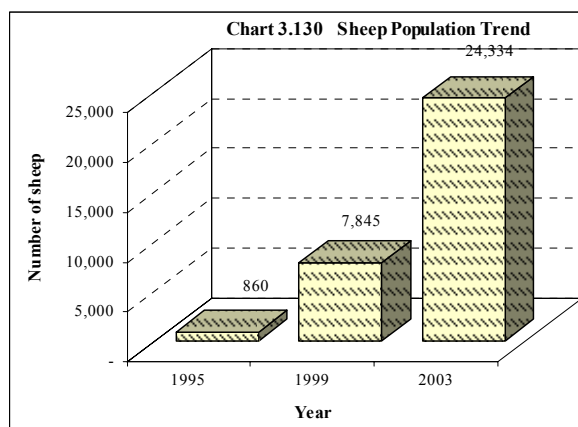




Sheep rearing was dominated by indigenous breeds that accounted for all the sheep.

3.12.3.2 Sheep Population Trend

The overall annual growth rate of the sheep population for the eight year period from 1995 to 2003 was estimated at 51.9 percent. The population increased at an annual rate of 73.8 percent from 860 in 1995 to 7,845 in 1999. From 1999 to 2003, sheep population increased at an annual rate of 32.7 percent (Chart 3.130).

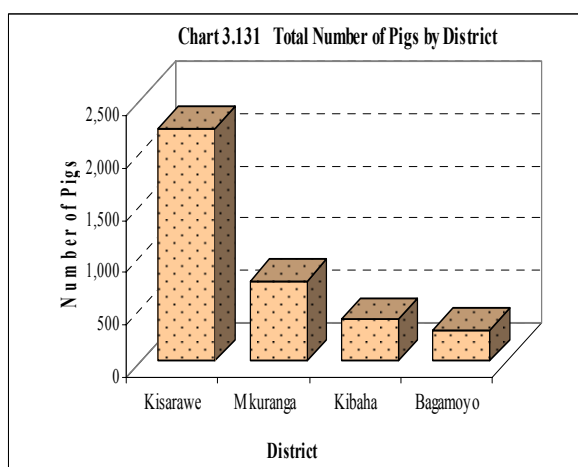


3.12.4. Pig Production

Piggery was the least important livestock keeping activity in the region after cattle, goats and sheep. The region ranked 18 out of 21 Mainland regions and had 0.4 percent of the Mainland total pigs.

The number of pig-rearing agricultural households in Pwani region was 353 (0.2% of the total agricultural households in the region) rearing 3,673 pigs. This gives an average of 10 pigs per pig-rearing household. The district with the largest number of pigs was Kisarawe with 2,226 pigs (61% of the total pig population in the region) followed by Mkuranga (761 pigs, 21%), Kibaha (392 pigs, 11%), Bagamoyo (294 pigs, 8%).

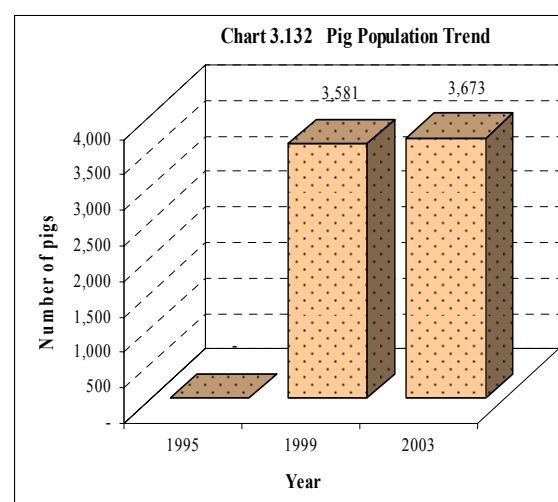
(Chart 3.131 and Map 3.45). However Kisarawe district had the highest density (1.4 head per km²) (Map 3.46). There were no pigs in Mafia and Rufiji districts.

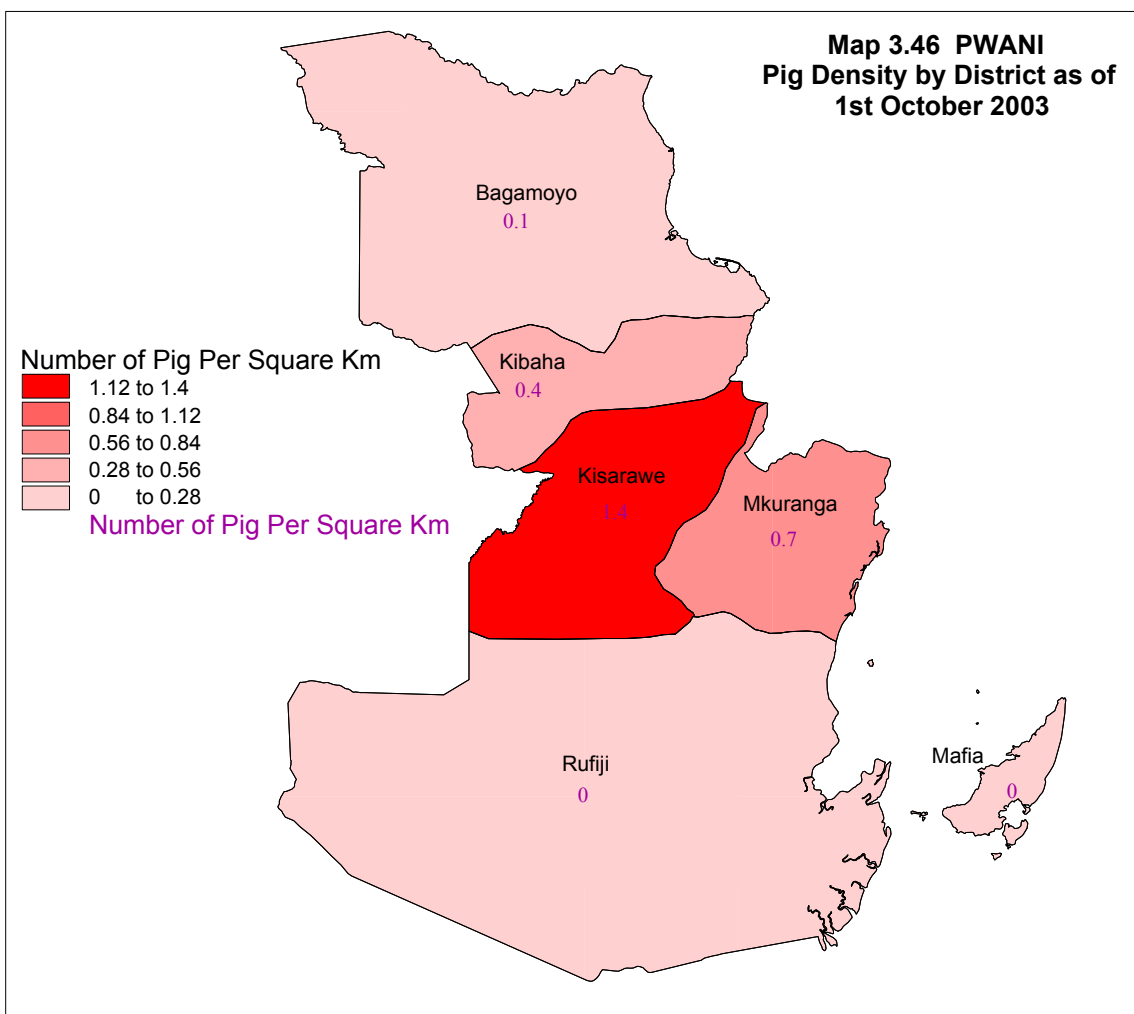
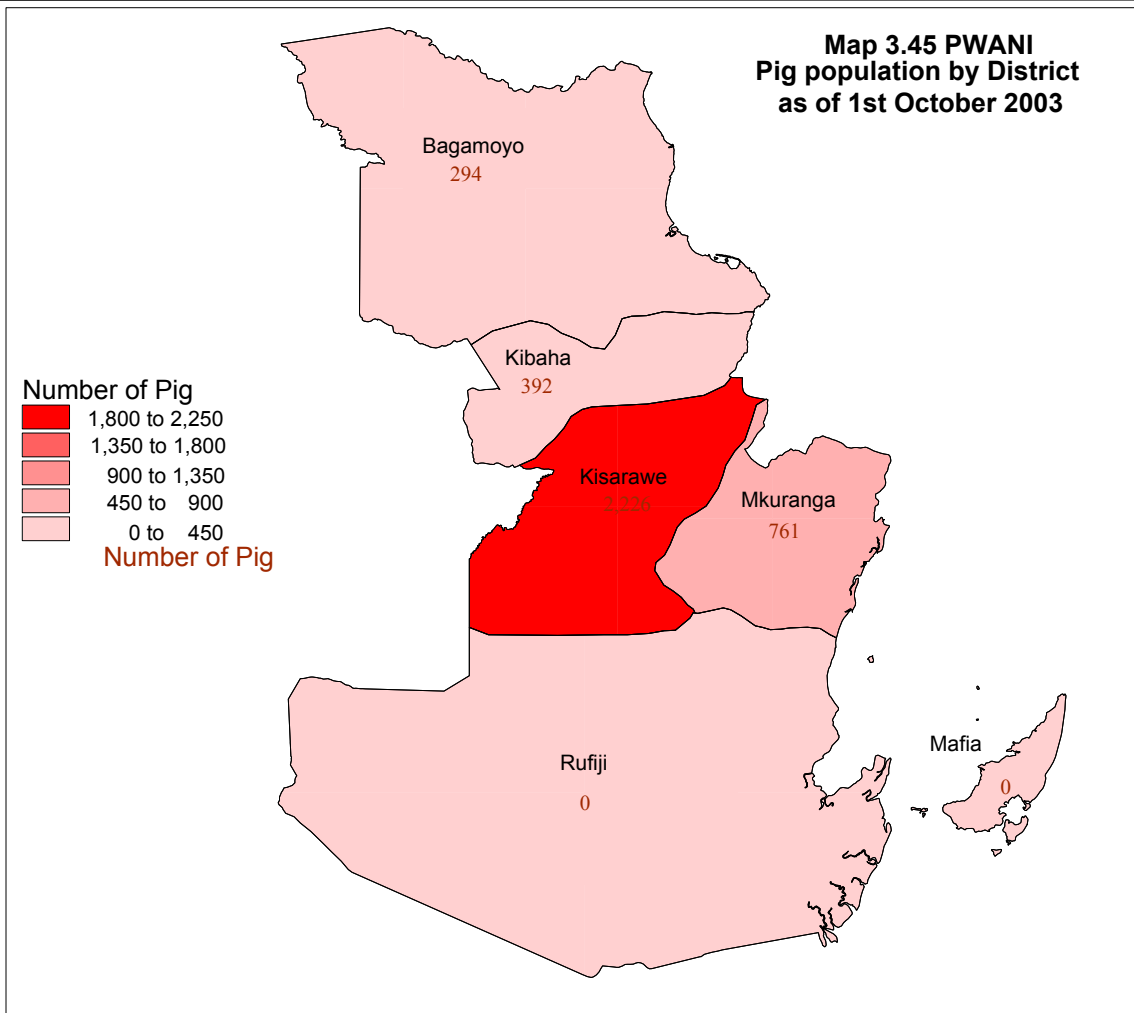


3.12.4.1 Pig Population Trend

The overall annual growth rate of the pig population for the period from 1999 to 2003 was 0.64 percent. During this period the population grew from 3,581 to 3,673.

(Chart 3.132).





3.12.5 Chicken Production

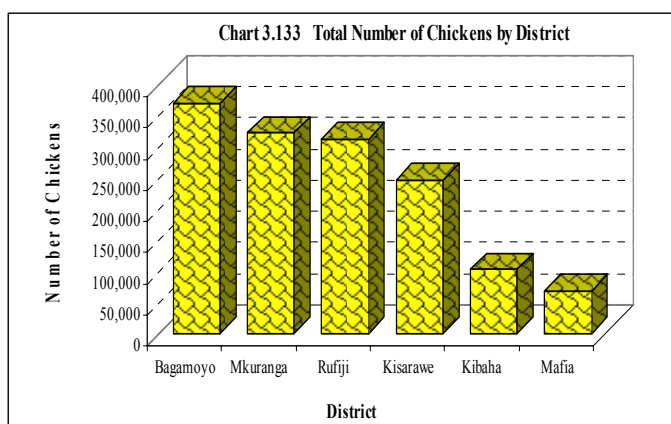
The poultry sector in Pwani region was dominated by chicken production. The region contributed 4.3 percent to the total chicken population on Tanzania Mainland.

3.12.5.1 Chicken Population

The number of households keeping chicken was 79507 raising about 1,420,152 chicken. This gives an average of 18 chicken per chicken-rearing household. In terms of total number of chicken in the country, Pwani region was ranked 13th out of the 21 Mainland regions.

The District with largest number of chicken was Bagamoyo (370,049 chicken, 26.1% of the total number of chicken in the region) followed by Mkuranga (322,132, 22.7%), Rufiji (311,759, 22%), Kisarawe (246,120, 17.3%), Kibaha (102,338, 7.2%). Mafia district had the smallest number of chicken (67,754, 4.8%). (Chart 3.133 and Map 3.47).

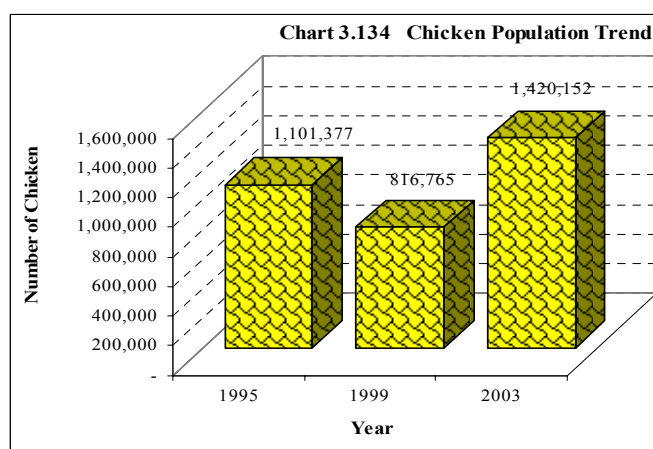
However Mafia district had the highest density (308 head per km²) (Map 3.48).



3.12.5.2 Chicken Population Trend

The overall annual chicken population growth rate during the eight-year period from 1995 to 2003 was 3.23 percent. The population decreased at a rate of -7.2 percent from 1995 to 1999 after which it increased at the rate of 14.8 percent for the four year period from 1999 to 2003 (Chart 3.134).

Eighty eight percent of all chicken in Pwani region were of indigenous breed. The dominance of indigenous breed makes the population trend for the indigenous chicken more-or-less the same as that of the total chicken in the region.



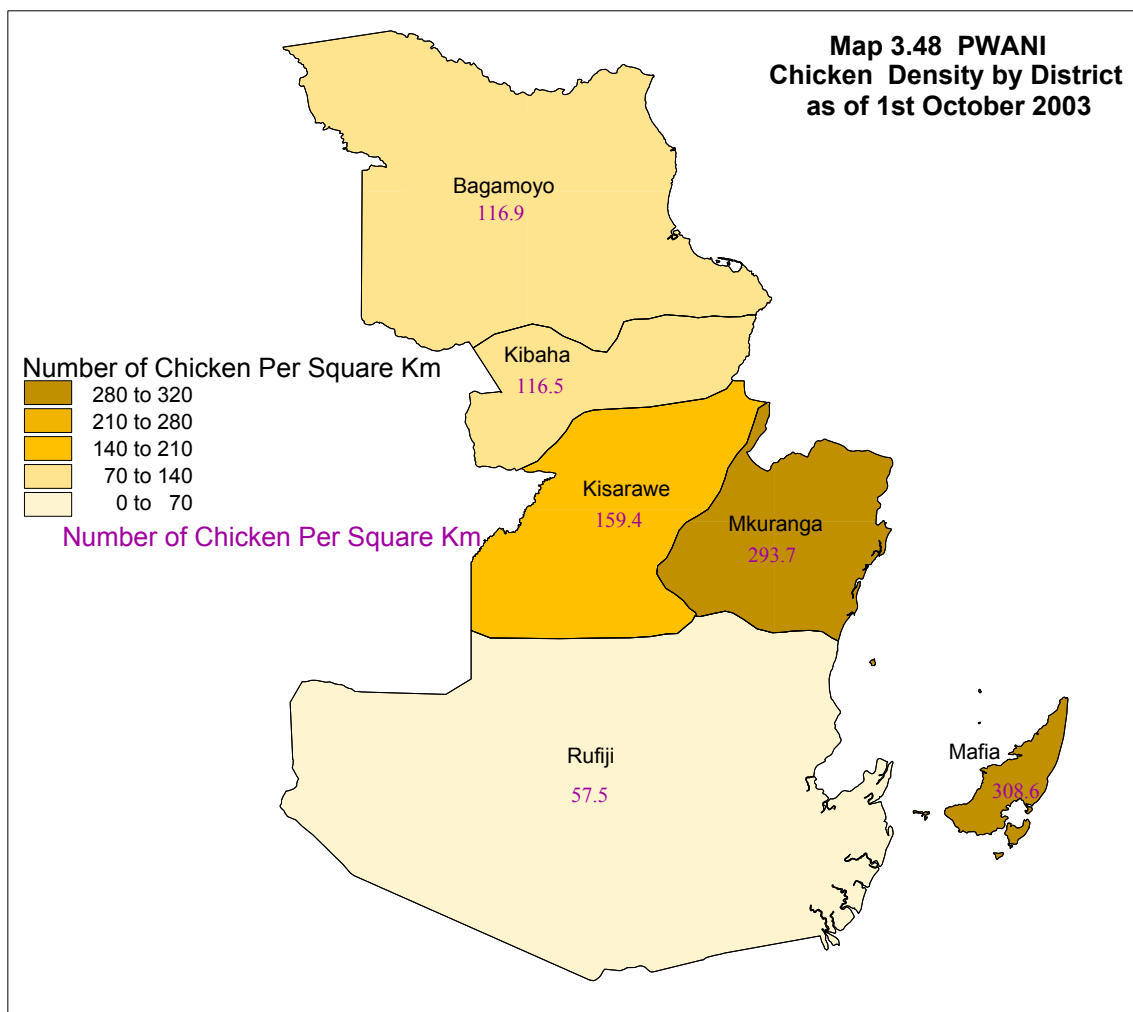
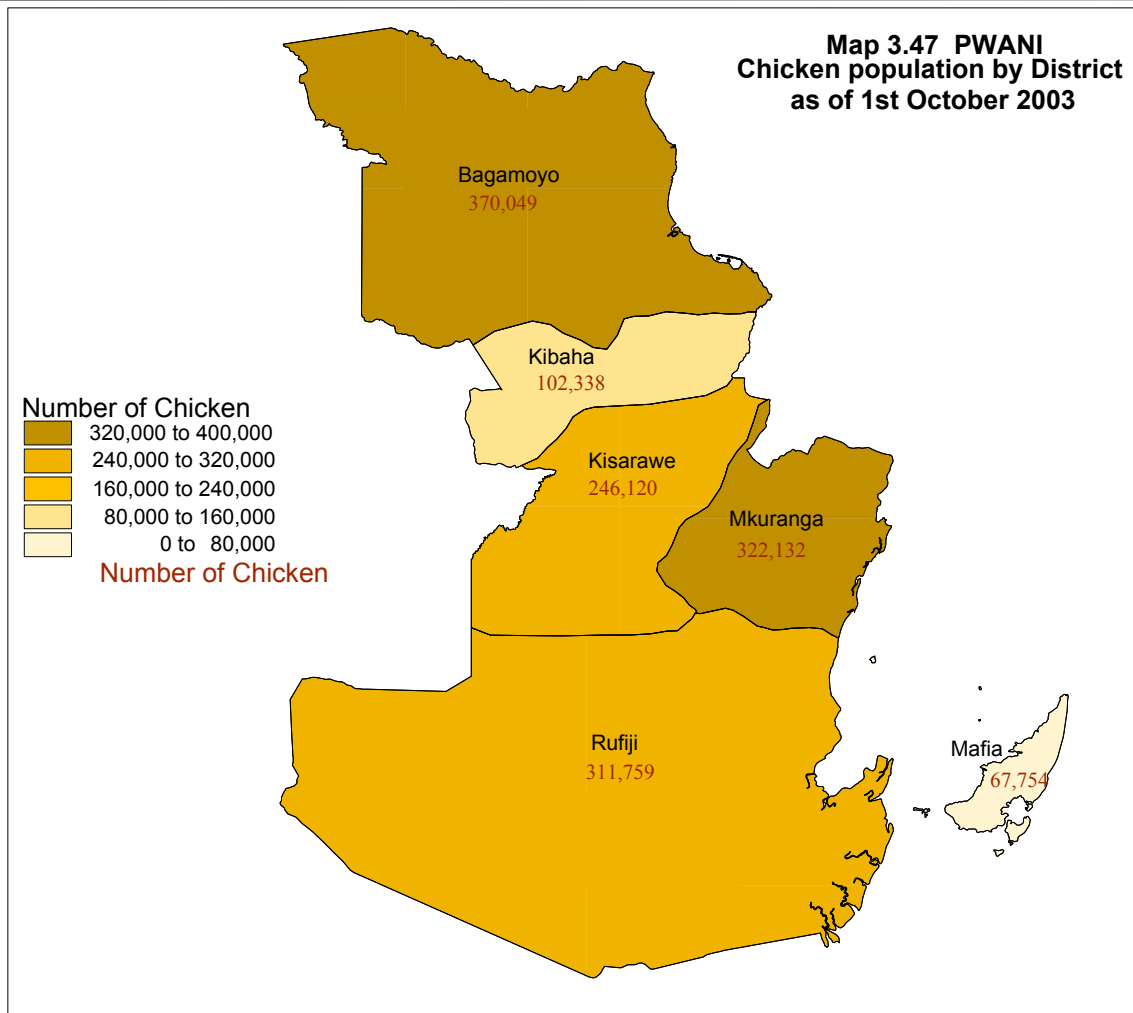
3.12.5.3 Chicken Flock Size

The results indicate that about 70.4 percent of all chicken-rearing households were keeping 1-19 chicken with an average of 9 chicken per holder. About 29.2 percent of holders were reported to be keeping the flock size of 20 to 99 chicken with an average of 32 chicken per holder.

Only 0.4 percent of holders kept the flock sizes of more than 100 chicken at an average of 655 chicken per holder (Table 3.14).

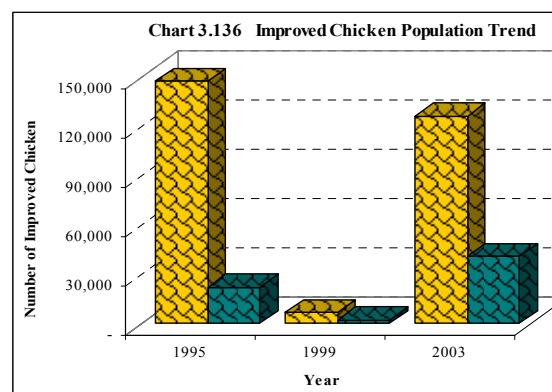
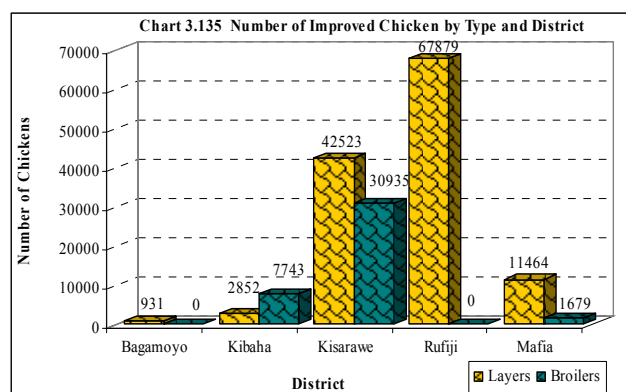
Table 3.15 Number of Households and Chickens Raised by Flock Size

Flock Size	Number of Households	%	Number of Chickens	Average Chickens by Households
1-4	12,480	16	33,830	3
5-9	17,795	23	120,208	7
10-19	25,092	32	321,845	13
20-29	12,254	16	273,881	22
30-39	5,868	7	184,373	31
40-49	2,196	3	92,214	42
50-99	2,673	3	178,300	67
100+	329	0	215,501	655
Total	78,687	100	1,420,152	18



3.12.5.4 Improved Chicken Breeds (Layers and Broilers)

Layers chicken population in Pwani Region increased at an annual rate of 111.3 percent during the period of four years from 6,306 in 1999 to 125,649 in 2003. The number of improved chicken was most significant in Kisarawe District followed by Rufiji District (Chart 3.135).



The overall annual growth rate for broilers during the eight-year period from 1995 to 2003 was 7.9 percent during which the population grew from 22,005 to 40,358. The annual growth rate was negative (-45.9%) for the period of four years from 1995 to 1999. The broiler population exhibited an increasing trend at the rate of 115.02 percent per annum for the period of four years resulting at increase from 1,888 in 1999 to 40,358 in 2003 (Chart 3.136).

3.12.6. Other Livestock

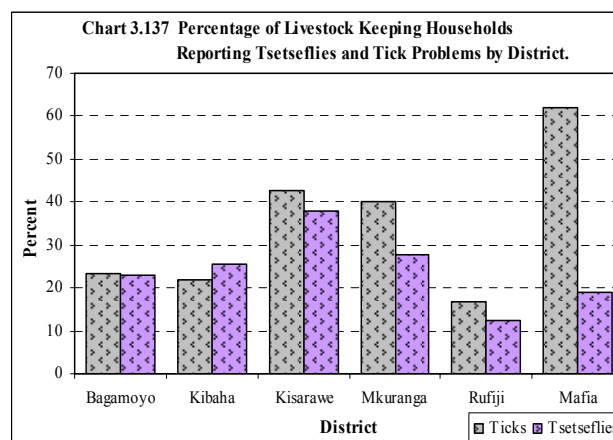
There were 53,420 ducks, 13,100 turkeys, 11,371 rabbits and 193 donkeys raised by the rural agricultural households in Pwani region. Table 3.16 indicates the number of livestock kept in each district. The biggest number of ducks in the region was found in Bagamoyo district (41% of all ducks in the region), followed by Mafia (32%), Rufiji (18.7%) and Kisarawe (5.2%). Kibaha district had the least number of ducks estimated to be 3 percent of total ducks in the region and no ducks were recorded in Mkuranga. Turkeys were reported only in Mafia and Mkuranga districts (97% and 3% respectively). (Table 3.16).

Table 3.16 Number of Other Livestock by Type of Livestock and District

District	Type of Livestock				
	Ducks	Turkeys	Rabbits	Donkeys	Other
Bagamoyo	21,949	0	9,198	0	1,828
Kibaha	1,624	0	53	0	0
Kisarawe	2,784	0	1,409	0	0
Mkuranga	0	404	0	0	0
Rufiji	9,968	0	711	0	0
Mafia	17,094	12,696	0	193	65
Total	53,420	13,100	11,371	193	1,893

3.12.7 Pest and Parasite Incidence and Control

The results indicate that 27 percent and 20 percent of the total livestock-keeping households reported to have encountered ticks and tsetse fly problems respectively. Chart 3.137 shows that there was a predominance of tick related diseases over tsetse related diseases. Incidences of both problems were lowest in Rufiji district. However ticks problems were highest in Mafia followed by Kisarawe district (Map 3.49).

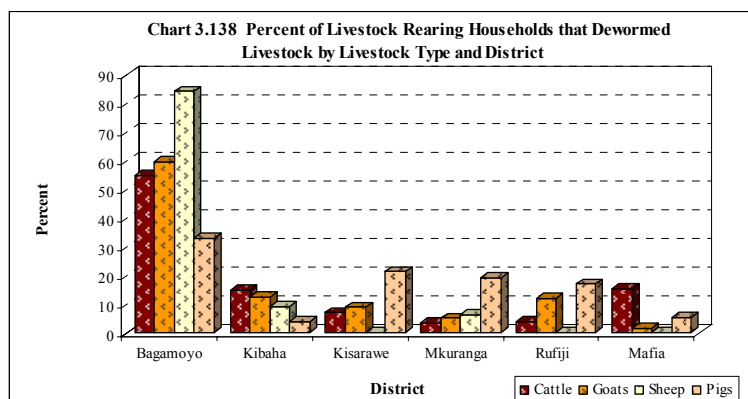


The most practiced method of tick controlling was spraying with 64 percent of all livestock-rearing households in the region using the method. Other methods used were dipping (8%), smearing (6%) and other traditional methods like hand picking (12%). However, 9 percent of livestock-keeping households did not use any method.

The most common method used to control tsetse flies was spraying which was practiced by 45 percent of livestock-rearing households, followed by dipping (11%). However, 44 percent of the livestock rearing households did not use any of the two aforementioned methods.

3.12.7.1 Deworming

Livestock rearing households that dewormed their animals were 4,657 (38.2% of the total livestock rearing households in the region). The percentage of the households that dewormed cattle was 72 percent, goats (35%), sheep (7%) and pigs (4%) (Chart 3.138).

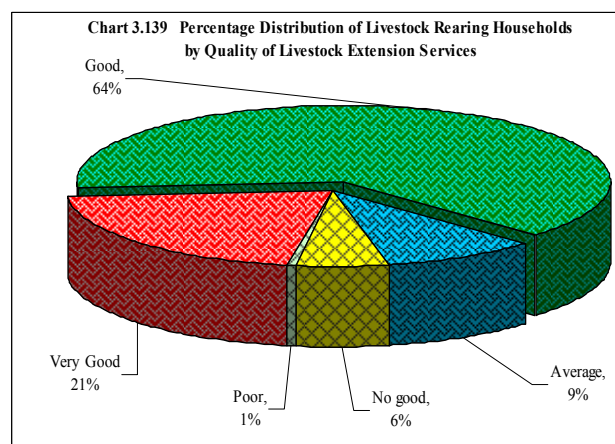


3.12.8. Access to Livestock Services

3.12.8.1 Access to Livestock Extension Services

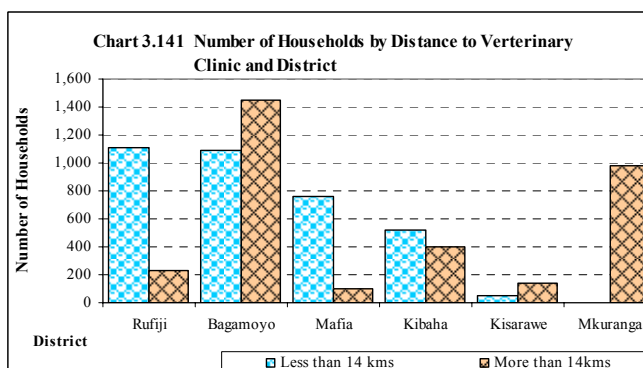
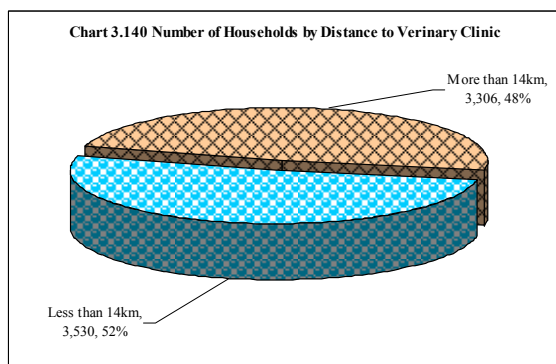
The total number of households that received livestock advice was 10,168, representing 83.5 percent of the total livestock-rearing households and 7.2 percent of the agricultural households in the region. The main livestock extension agent was the government which provided service to about 97 percent of all households receiving livestock extension services. The rest of the households got services from Cooperatives (12%), NGOs/ development projects (1%) and large-scale farmers (0.4%).

About 64 percent of livestock rearing households described the general quality of livestock extension services as being good, 21 percent said they were very good and 9 percent said they were average. However, 6 percent of the livestock rearing households said the quality was not good whilst 1 percent described them as poor. (Chart 3.139).



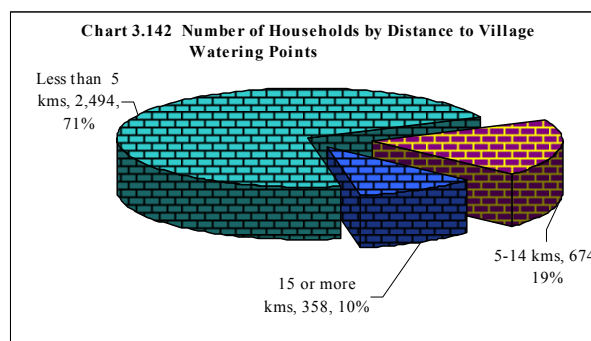
3.12.8.2 Access to Veterinary Clinic

Some veterinary clinics were not located far from livestock rearing households. About 51.6 percent of the livestock rearing households accessed the services, at a distance of less than 14 kms, while 48.4 percent of them accessed the services more than 14 kms from their dwellings (Chart 3.140). The most affected district was Bagamoyo district with more than half of livestock rearing households accessing the services at a distance of more than 14 kms. Mafia district was the most affected because almost all the livestock rearing households accessed the service at least a distance of 14 kms. from their dwellings. (Chart 3.141).

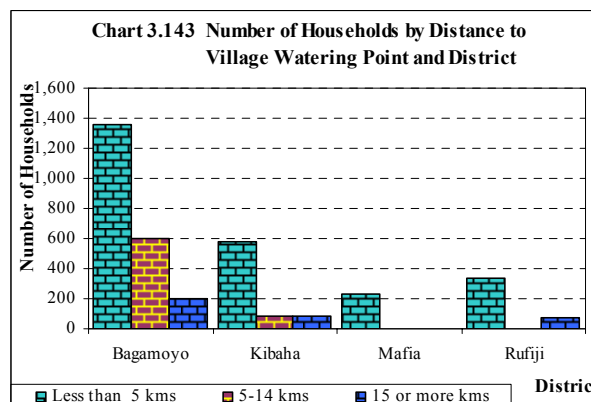


3.12.8.3 Access to Village Watering Points/dam

The number of livestock rearing households residing less than 5 kms from the nearest watering point was 2,494 (71% of livestock rearing households in Pwani region) whilst 674 households (19%) resided between 5 and 14 kms. However, 358 households (10%) had to travel a distance of 15 or more kms to the nearest watering point (Chart 3.142).



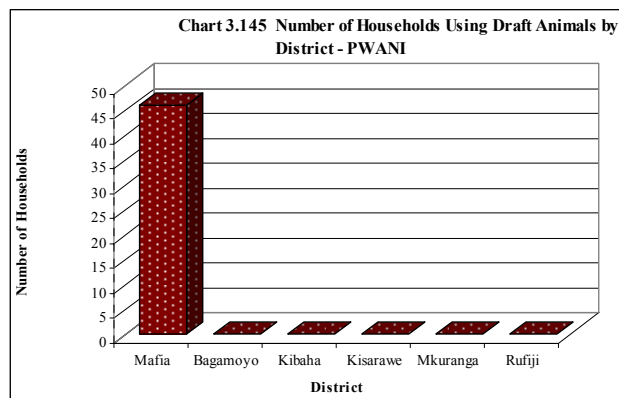
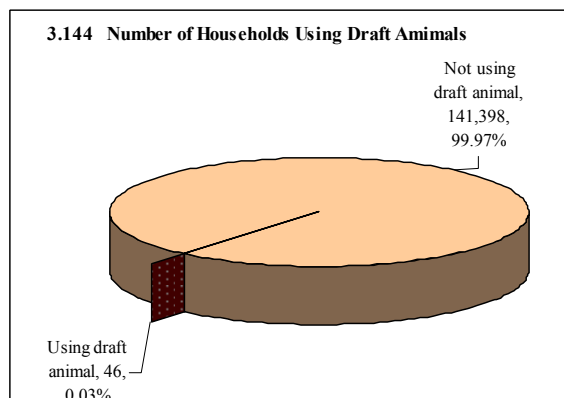
Rufiji and Mafia districts had the best livestock water supply with the majority of livestock rearing households residing within 5 kms from the nearest watering point. This was followed by Kibaha and Bagamoyo districts. In Bagamoyo district about 37 percent of the livestock rearing households had to travel a distance of more than five kilometers to the nearest watering point (Chart 3.143).



3.12.9. Animal Contribution to Crop Production

3.12.9.1 Use of Draft Power

Use of draft animals to cultivate land in Pwani region was very limited with only 46 households (0.03% of the total crop growing households in the region) using them (Chart 3.144).

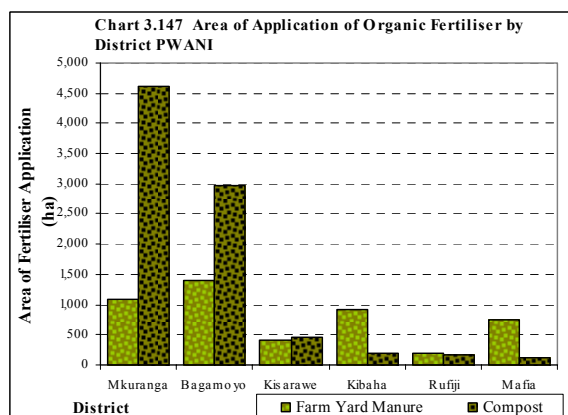
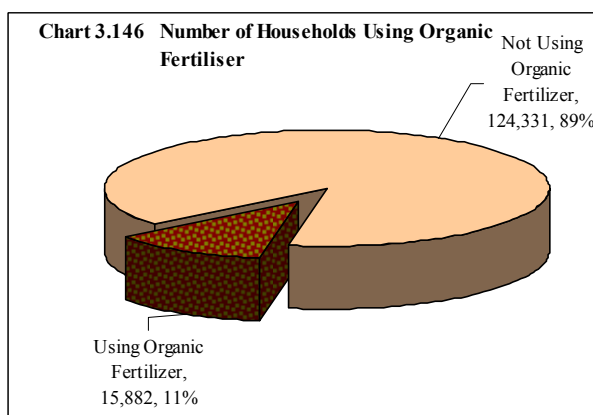


The 46 households in Pwani region that used draft animals were all in Mafia district. Use of draft animals was not reported in the other districts (Chart 3.145 and Map 3.50).

The region had 92 oxen (all in Mafia district) that were used to cultivate 19 hectares of land. This represents only 0.004 percent of the total oxen found on the Mainland. The area cultivated using oxen was found in Mafia district only.

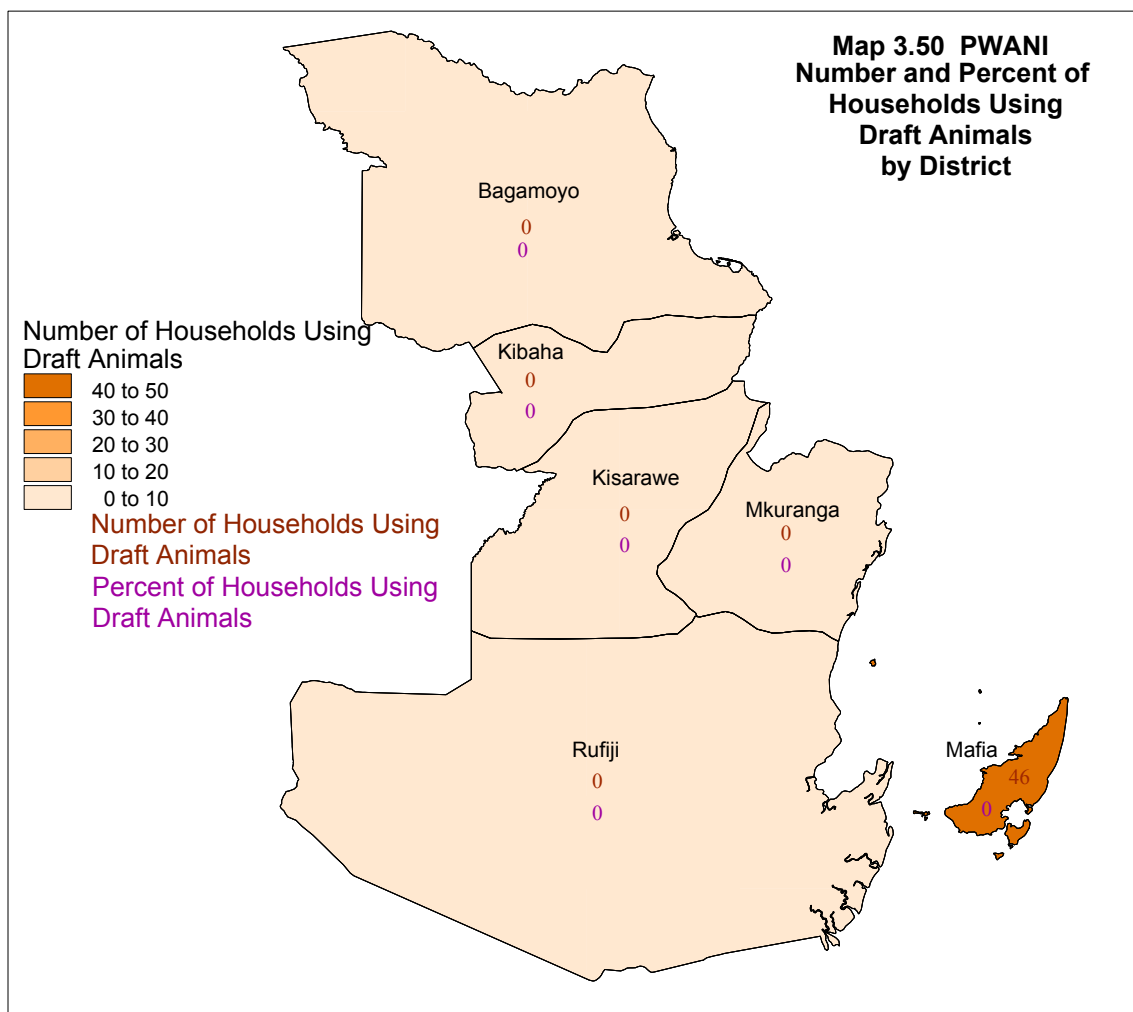
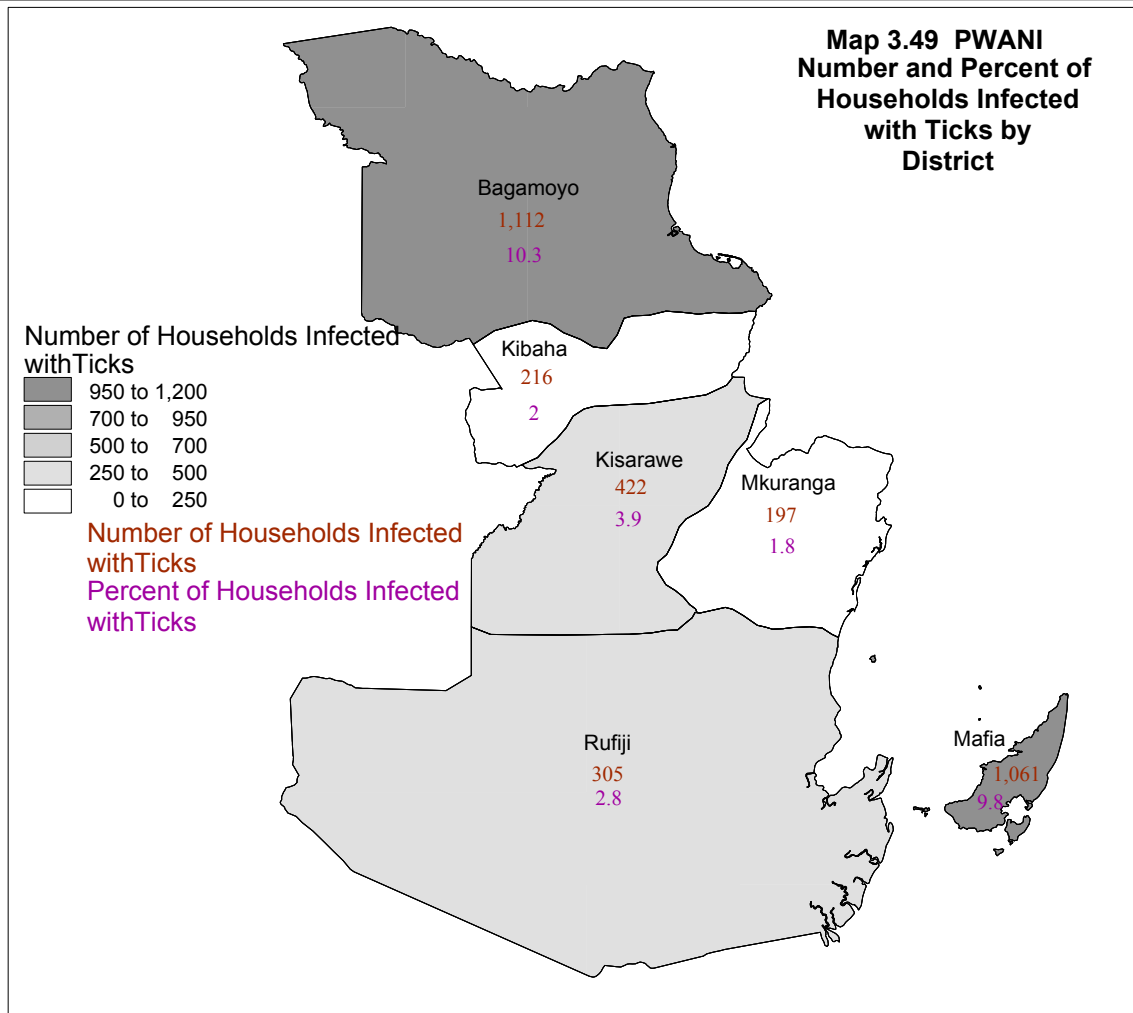
3.12.9.2 Use of Farm Yard Manure

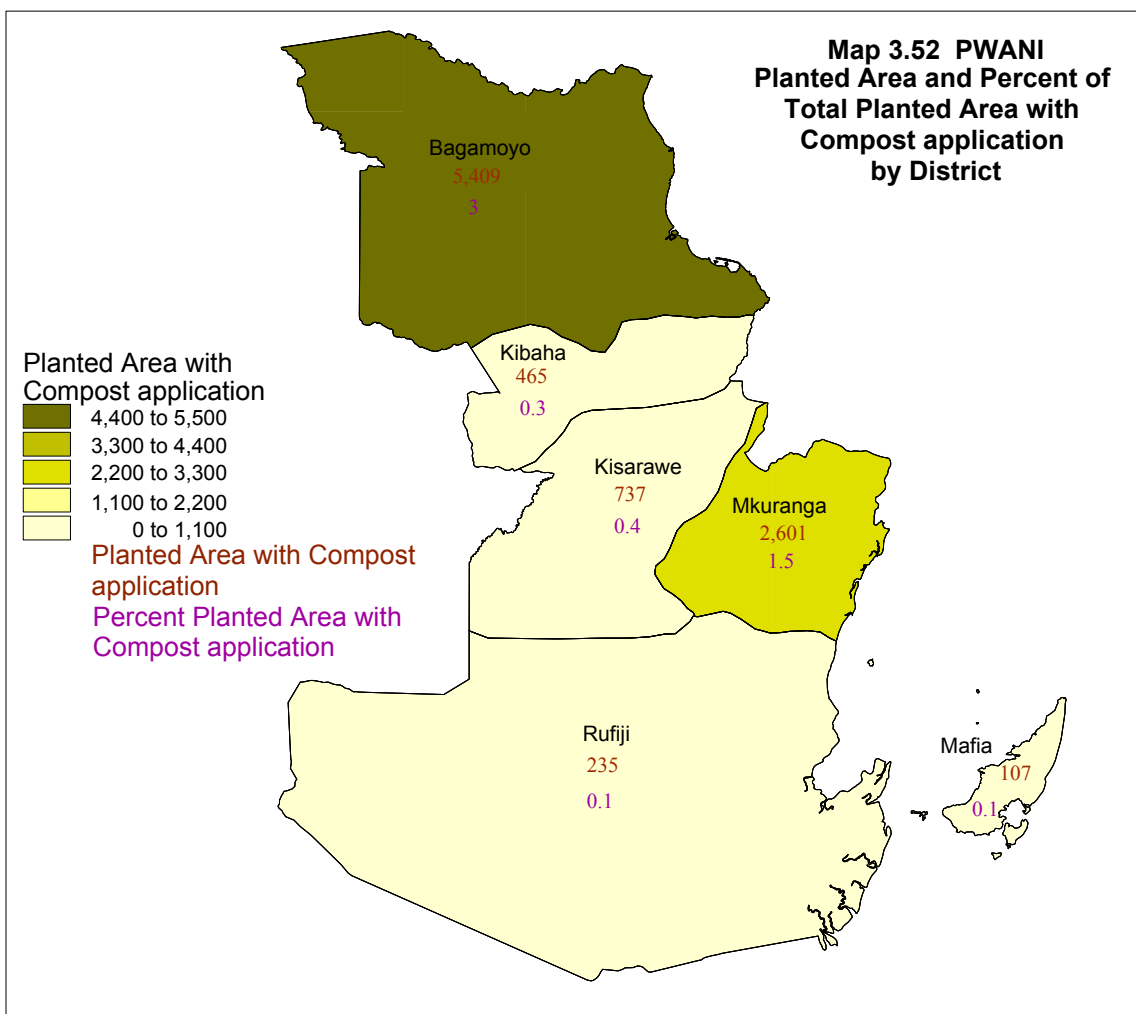
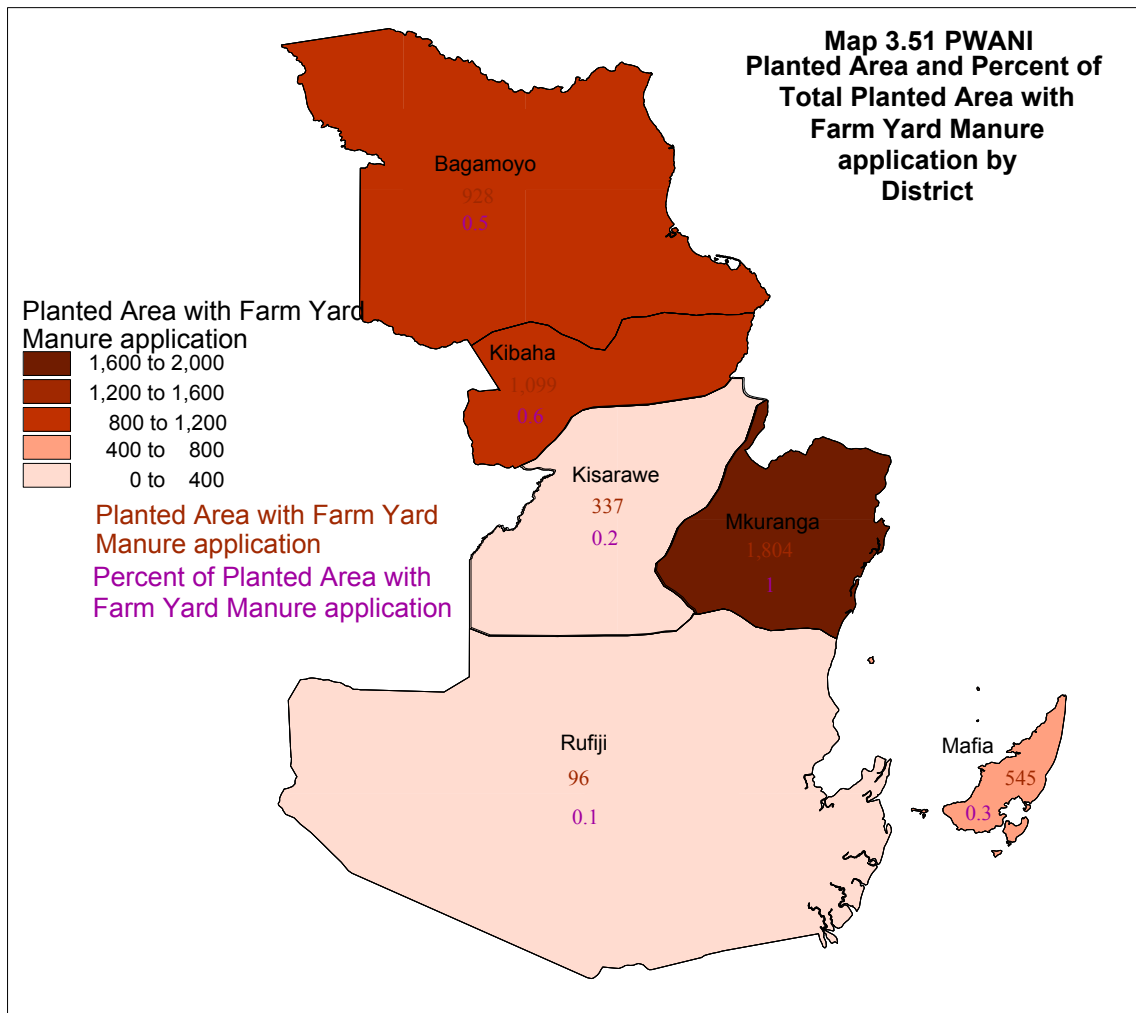
The number of Households using organic fertilizer in Pwani region was 15,882 (11% of total crop growing households in the region) (Chart 3.146). The total area applied with organic fertiliser was 13,326 ha of which 4,772 hectares (36% of the total area applied with organic fertiliser or 4.4% of the area planted with annual crops and vegetables in Pwani region during the long rainy season) was applied with farm yard manure (Map 3.51).



3.12.9.4 Use of Compost

Only 8,553 ha (64% of the area of organic fertilizer application) was applied with compost. The largest area applied with farm yard manure was found in Bagamoyo district with 1,389 hectares (29% of the total area applied with farm yard manure) followed by Mkuranga (1,098 ha, 23%), Kibaha (923 ha, 19.4%), Mafia (757 ha, 16%), Kisarawe (421 ha, 8.8%), and Rufiji (183 ha, 3.8%) (Chart 3.147 and Map 3.52).





3.12.10 Fish Farming

Fish farming was not practiced in Pwani region.

3.13. POVERTY INDICATORS

The agricultural census collected data on poverty for the purpose of providing a base for tracking progress in poverty reduction strategies undertaken by the government.

3.13.1 Access to Infrastructure and Other Services

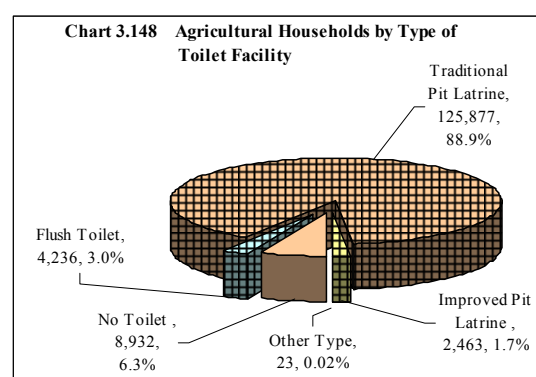
The results indicate that among the evaluated services, the regional capital was a service that was located farthest from most of the household's dwellings than any other service. It was located at an average distance of 130 kilometers from the agricultural household's dwellings. Other services and their respective average distances in kilometers from the dwellings were tertiary market (64.4), hospital (48.2), tarmac road (31.5), secondary market (31.1), secondary school (23.7), primary market (17.4), health clinic (7), all weather road (4.2), primary school (2.4) and feeder road (1.3). (Table 3.15).

District	Mean Distance to										
	Secondary Schools	Primary Schools	All weather roads	Feeder Roads	Hospitals	Health Clinics	Regional Capital	Primary Markets	Secondary Market	Tertiary Market	Tarmac Roads
Bagamoyo	21.2	2.3	2.9	1.8	68.6	5.3	101.6	13.0	33.5	68.1	10.8
Kibaha	27.1	1.8	1.7	0.6	39.6	9.2	48.4	10.3	18.9	42.5	10.4
Kisarawe	17.4	1.9	4.5	0.6	43.7	6.9	97.3	17.4	26.2	61.2	51.6
Mkuranga	26.0	3.0	4.3	1.0	37.9	7.5	118.7	13.0	21.9	45.2	17.9
Rufiji	25.1	2.3	5.9	1.6	46.1	8.2	213.0	18.3	35.6	78.1	37.0
Mafia	30.1	2.6	8.4	2.2	26.6	2.7	238.6	82.9	90.3	143.6	200.5
Total	23.7	2.4	4.2	1.3	48.2	7.0	130.0	17.4	31.1	64.4	31.5

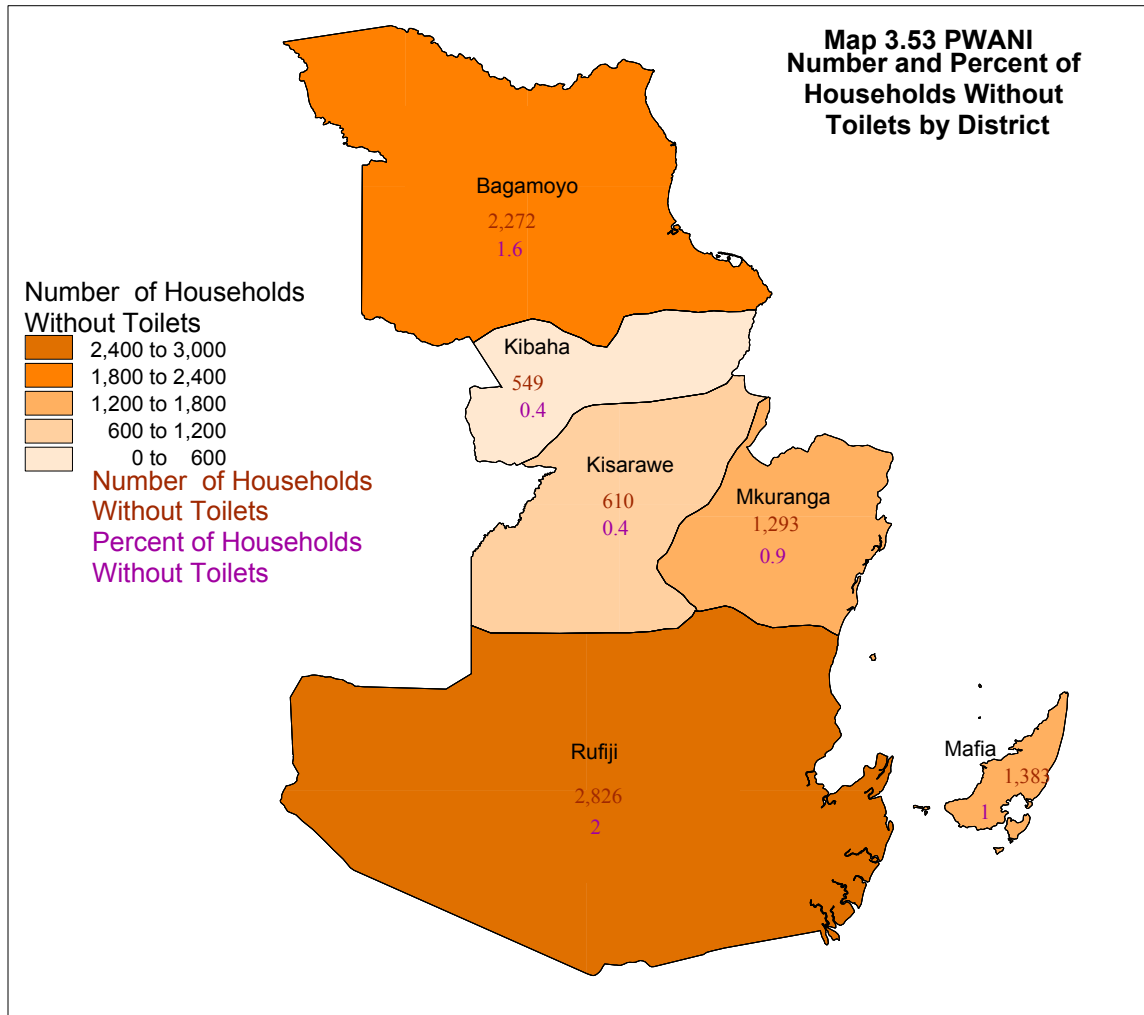
Only 9 percent of the agricultural households reported the available infrastructures and services as 'very good' whereas 20 percent reported them to be average. Seventeen percent of the agricultural households said the infrastructure and services were poor, and 21 percent said they were 'no good'.

3.13.2 Type of Toilets

A large number of rural agricultural households use traditional pit latrines (125,877 households, 88.9% of all rural agricultural households) 2,463 households (1.7%) use improved pit latrine and 4,236 households (3%) use flush toilets. The remaining 23 household (0.02%) use other toilets facilities. However, 8,932 households (6.3%) in the region had no toilet facilities (Chart 3.148).

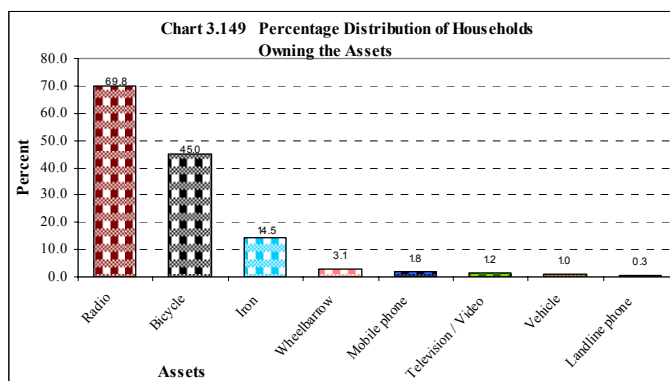


The distribution of the households without toilets within the region indicates that 31.6 percent of them were found in Rufiji District and 25.4 percent were from Bagamoyo. The percentages of households without toilets in other districts were as follows Mafia (15.5%), Mkuranga (14.5%), Kisarawe (6.8%), and Kibaha (6.1%). Map 3.53).



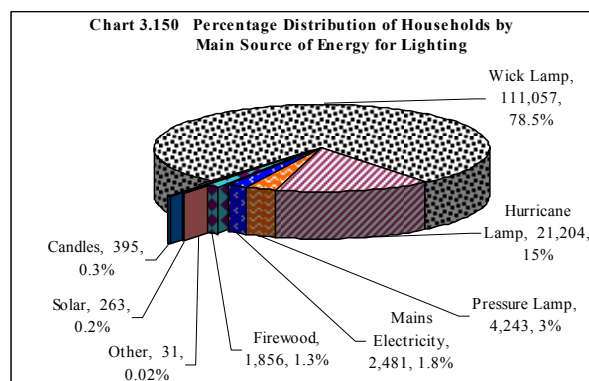
3.13.3 Household's Assets

Radios were owned by most rural agricultural households in Pwani region with 98,795 households (69.8% of the agriculture households in the region) owning the asset. followed by bicycle (63,644 households, 45%), iron (20,556 households, 14.5%), wheelbarrow (4,371 households, 3.1%), mobile phone (2,542 households, 1.8%), television/video (1,754 households, 1.2%), vehicle (1,354 households, 1%) and landline phone (415 households, 0.3%) (Chart 3.149).



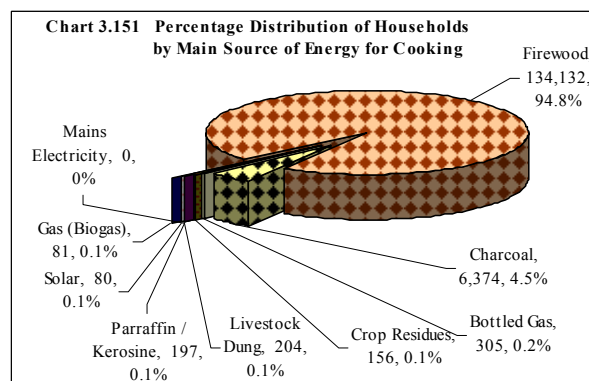
3.13.4 Sources of Lighting Energy

Wick lamp was the most common source of lighting energy in the region. with 78.5 percent of the total rural households using this source of energy followed by hurricane lamp (15%), pressure lamp (3%), mains electricity (1.8%), firewood (1.3%), solar (0.2%), candle (0.3%) and other (0.02%). (Chart 3.150).



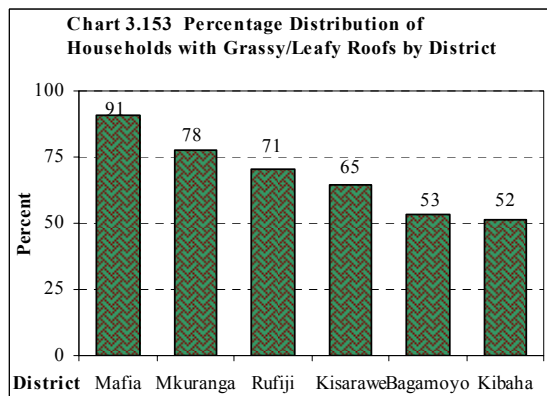
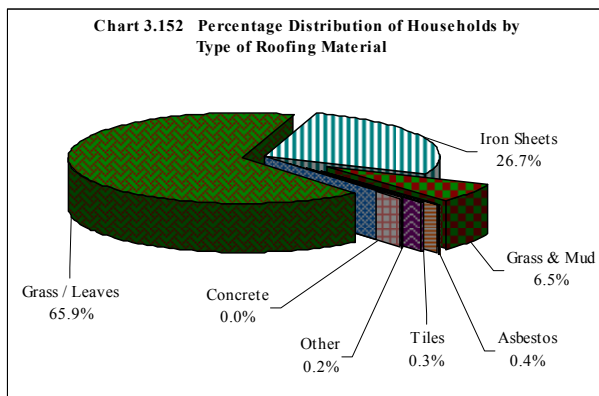
3.13.5 Sources of Energy for Cooking

The most prevalent source of energy for cooking was firewood, which was used by 94.8 percent of all rural agricultural households in Pwani region. This was followed by charcoal (4.5%). The rest of energy sources accounted for 0.7 percent. These were bottled gas (0.2%), crop residues (0.1%), solar (0.1%), livestock dung (0.1%), paraffin/kerosene (0.1%) and gas/biogas (0.1%). (Chart 3.151).



3.13.6 Roofing Materials

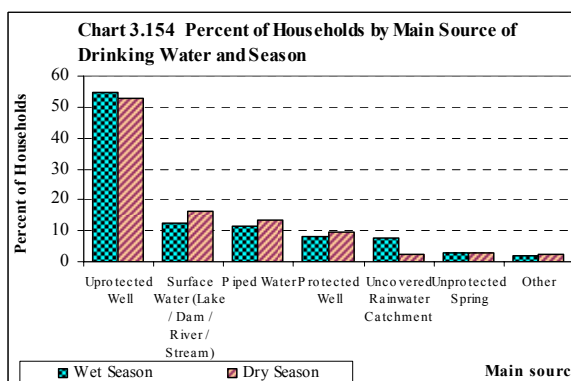
The most common roofing material for the main dwelling was grass and/or leaves which was used by 66 percent of the rural agricultural households. This was followed by iron sheets (26.7%), grass/mud (6.5%), asbestos (0.4%), tiles (0.3%), and others (0.2%). (Chart 3.152).



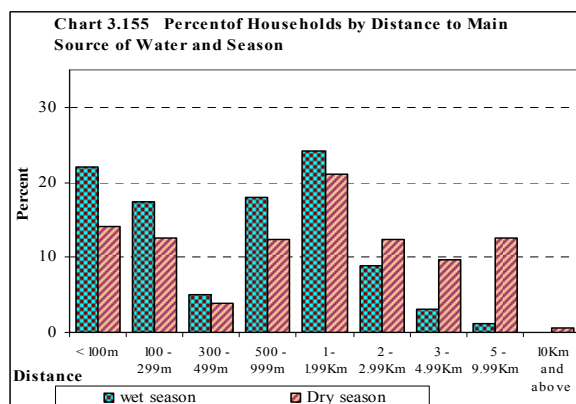
Mafia district had the highest percentage of households with grass/leaves roofing material (91%) and was followed by Mkuranga district (78%), Rufiji (71%), Kisarawe (65%), Bagamoyo (53%), and Kibaha (52%). (Chart 3.153) and Map 3.54).

3.13.7 Access to Drinking Water

The main source of drinking water for rural agricultural households in Pwani region was the unprotected well (55 percent of households use unprotected wells during the wet season and 52.6 percent of the households during the dry seasons. This was followed by surface water (12% of households in the wet season and 16.5% during dry season), piped water (12% of households during the wet season and 13.7% in the dry season), protected well (8% of households during the wet season and 9.5% in the dry season) and uncovered rainwater with 8% of households during the wet season and 2.4% in the dry season. Unprotected spring was used as a main source by 3 percent of the households in the wet season and by 2.9 percent in the dry season. (Chart 3.154).



About 62 percent of the rural agricultural households in Pwani region obtained drinking water within a distance of less than one kilometer during wet season compared to 43 percent of the households during the dry season. However, 37 percent of the agricultural households obtained drinking water from a

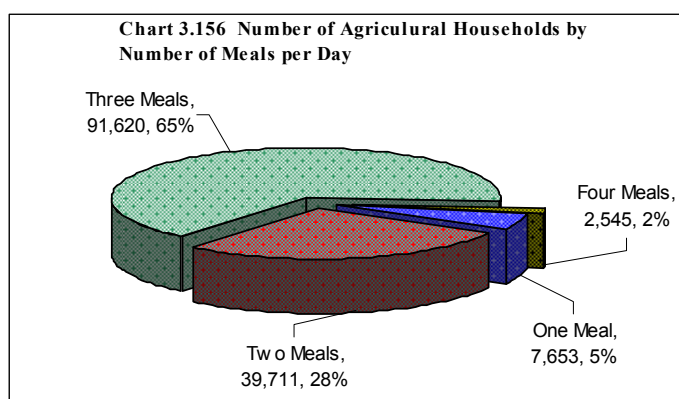


distance of one or more kilometers during wet compared to 56 percent of households in the dry season. The most common distance from the source of drinking water was between 1 and 2 km. (Chart 3.155).

3.13.8 Food Consumption Pattern

3.13.8.1 Number of Meals per Day

The majority of households in Pwani region normally have 3 meals per day (64.7 percent of the households in the region). This is followed by 2 meals per day (28.1 percent) and 1 meal per day (5.4 percent). Only 1.8 percent of the households have 4 meals per day (Chart 3.156).



Kisarawe district had the largest percent of households eating one meal per day whilst Bagamoyo had the highest percent of households eating 3 meals per day. (Table 3.16 and Map 3.55).

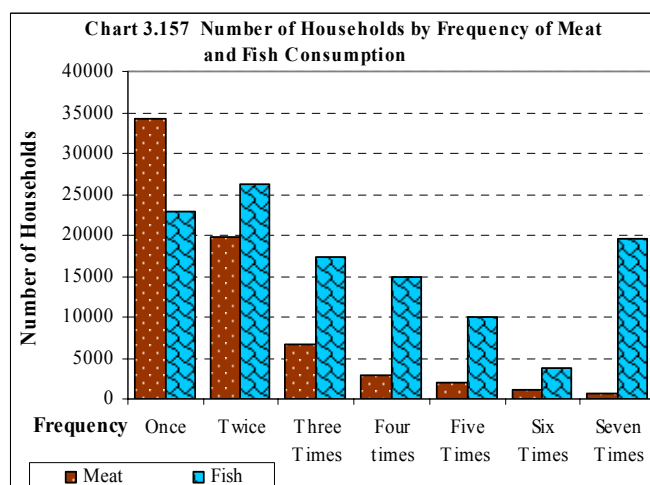
Chart 3.18: Number of Households by Number of Meals the Household Normally Takes per Day and District

District	Number of meals per day								Total
	One	%	Two	%	Three	%	Four	%	
Bagamoyo	496	1.3	9801	26.3	26993	72.4	0	0.0	37290
Kibaha	1004	7.2	5554	39.6	6844	48.8	626	4.5	14029
Kisarawe	1627	8.7	7009	37.6	10002	53.7	0	0.0	18637
Mkuranga	2185	6.3	6586	19.0	24130	69.4	1844	5.3	34744
Rufiji	2017	6.5	9224	29.8	19589	63.4	75	0.2	30906
Mafia	324	5.5	1538	26.0	4063	68.6	0	0.0	5924
Total	7,653	5.4	39,711	28.1	91,620	64.7	2,545	1.8	141,530

3.13.8.2 Meat Consumption

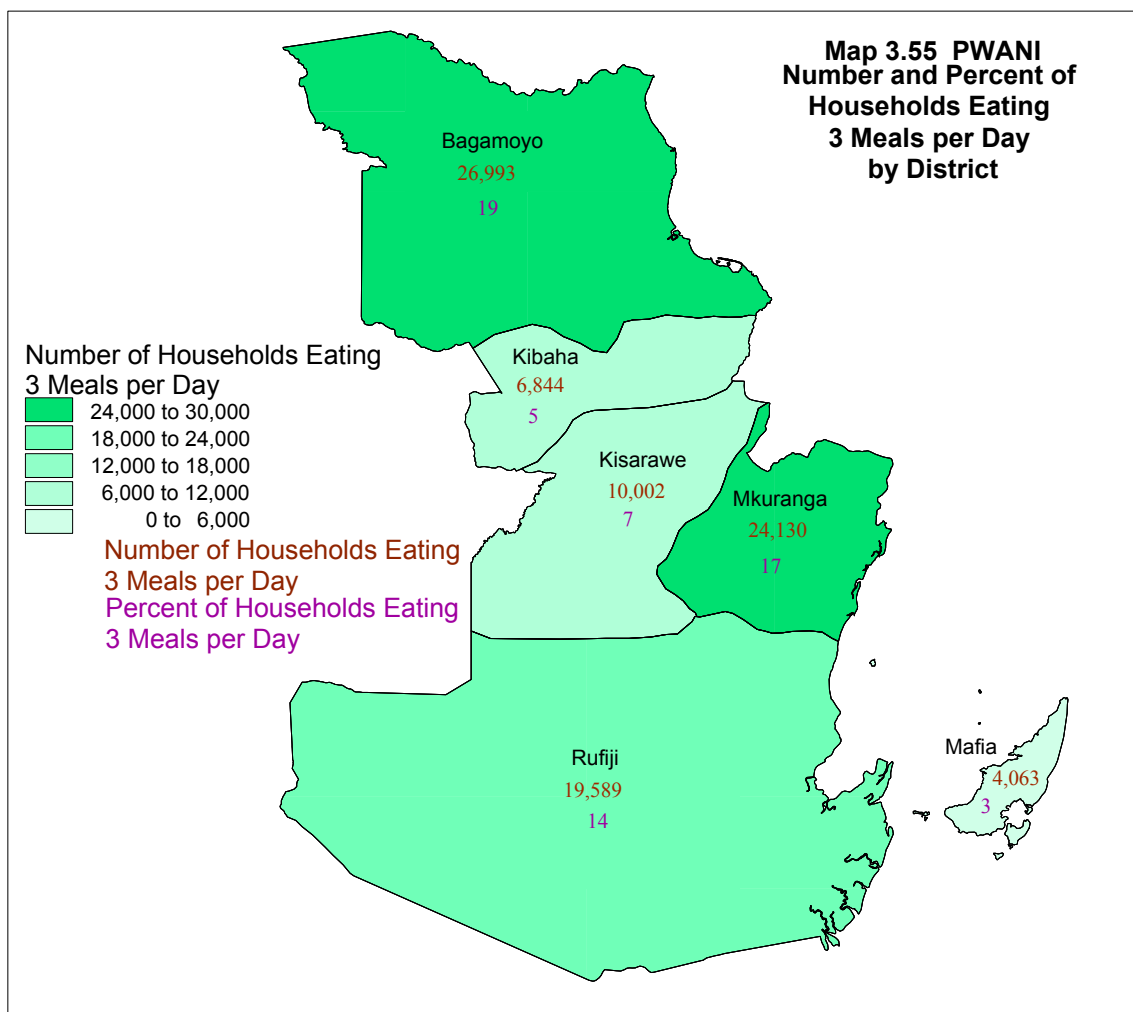
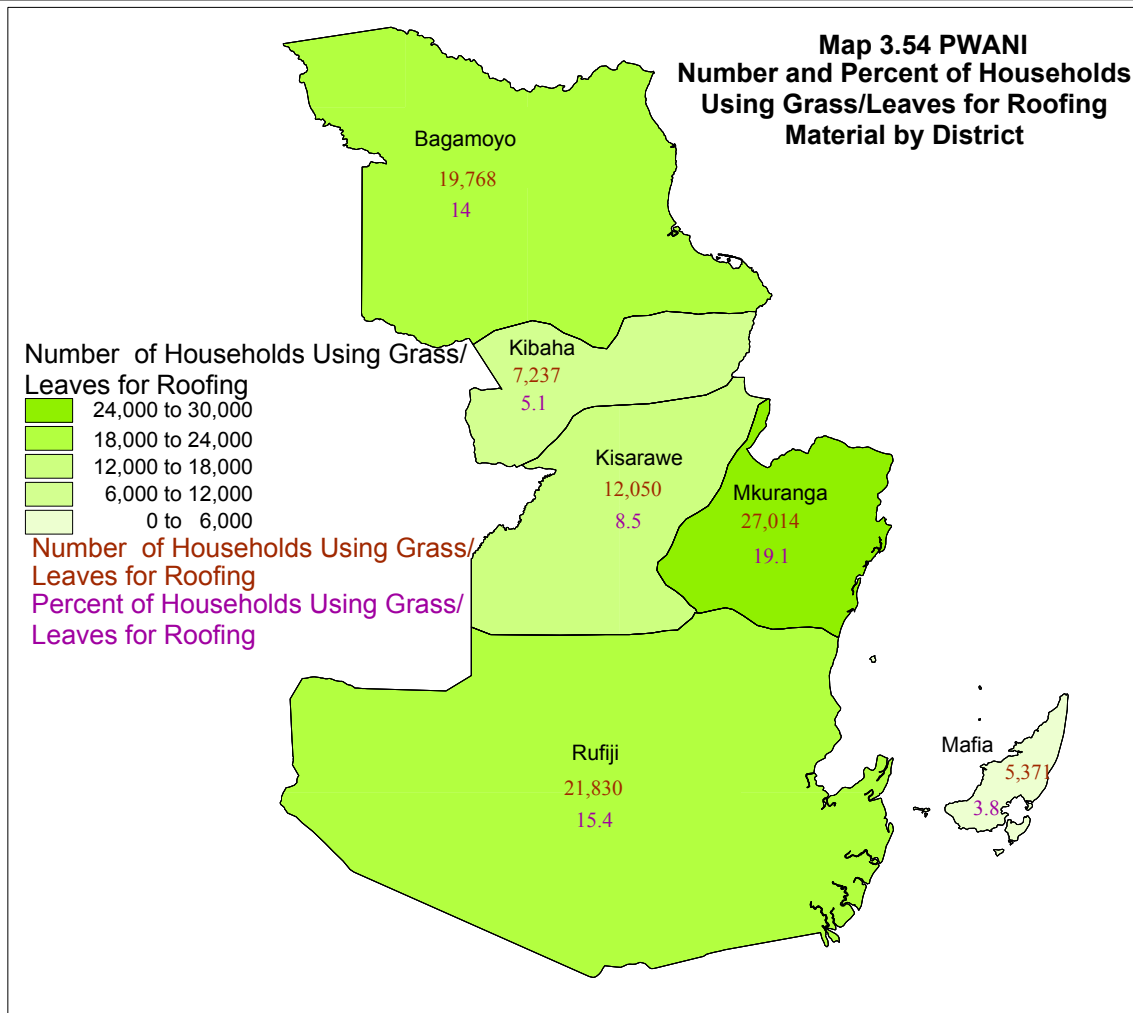
Frequencies

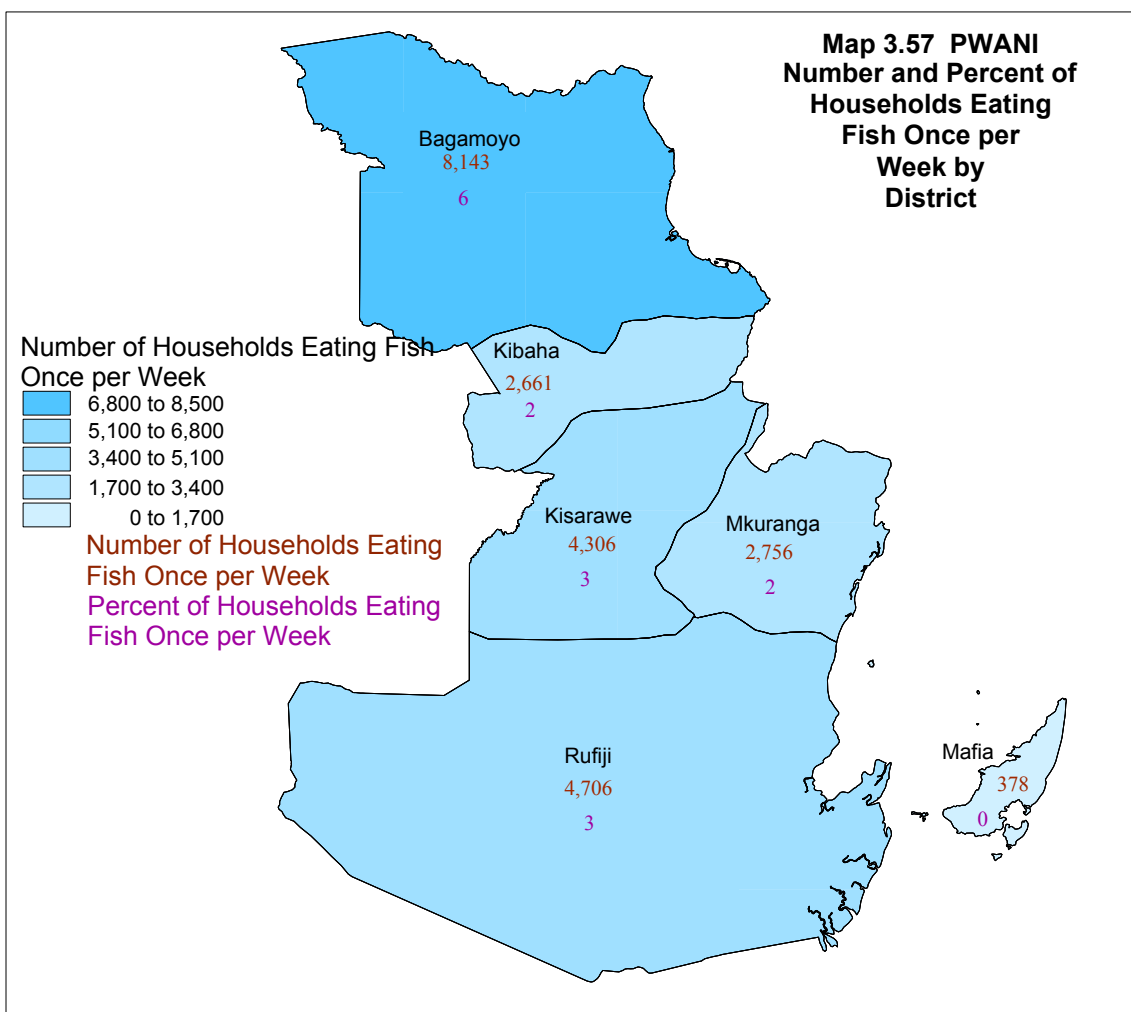
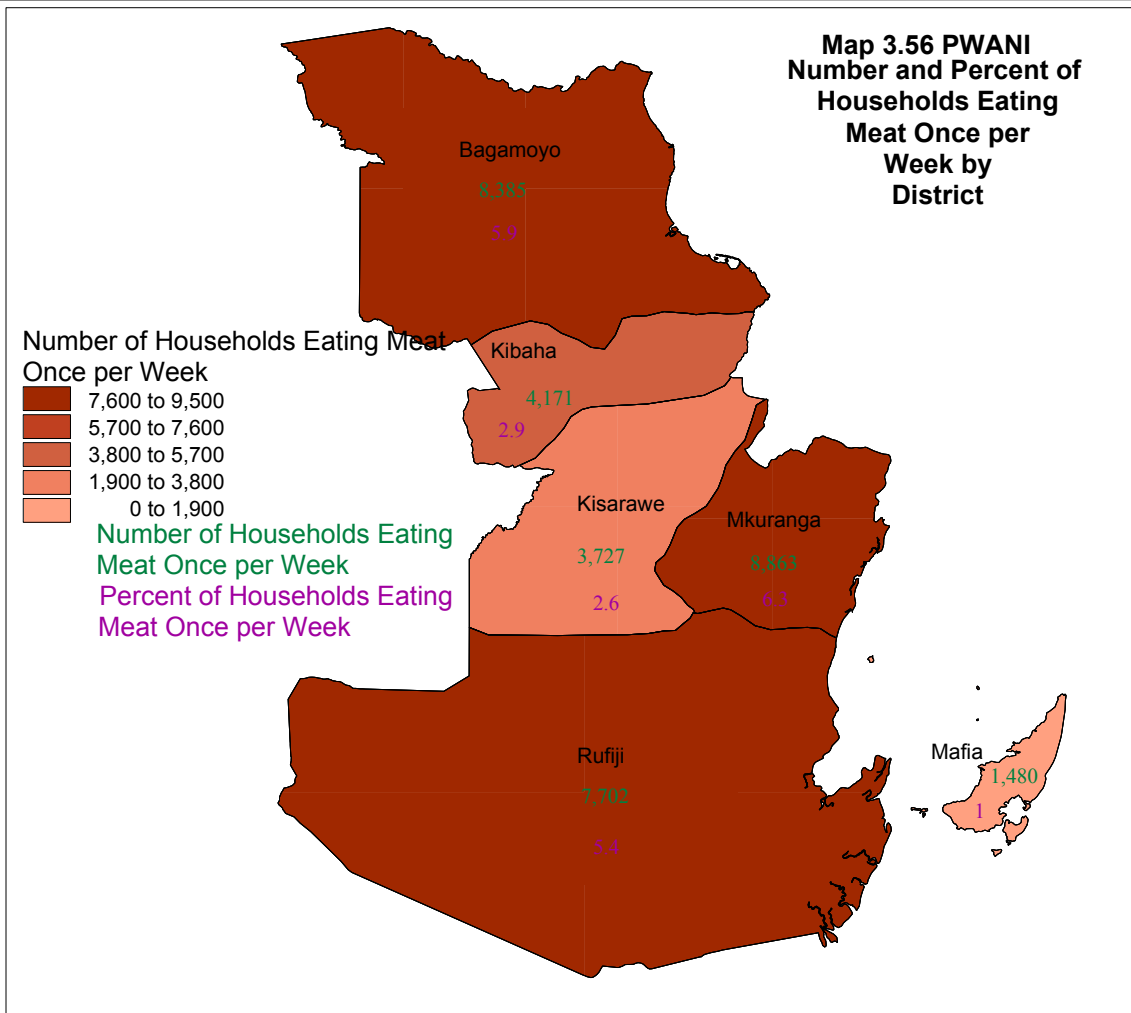
The number of agricultural households that consumed meat during the week preceding the census was 67,290 (47.5% of the agricultural households in Pwani region) with 34,327 households (51% of those who consumed meat) consuming meat only once during the respective week. This was followed by those who had meat twice during the week (29%). Very few households had meat three or more times during the respective week. About 52 percent of the agricultural households in Pwani region did not eat meat during the week preceding the census (Chart 3.157 and Map 356).



3.13.8.3 Fish Consumption Frequencies

The number of agricultural households that consumed fish during the week preceding the census was 114,687 (81% of the total agricultural households in Pwani region) with 26,216 households (22.9% of those who consumed fish) consuming fish twice during the respective week. This was followed by those who had fish once a week (20%). The number of households that consumed fish twice or more during the week in Pwani region was 91,738 (80% of the agricultural households that ate fish in the region during the respective period). About 19 percent of the agricultural households in Pwani region did not eat fish during the week preceding the census. (Chart 3.157 and Map 3.57).





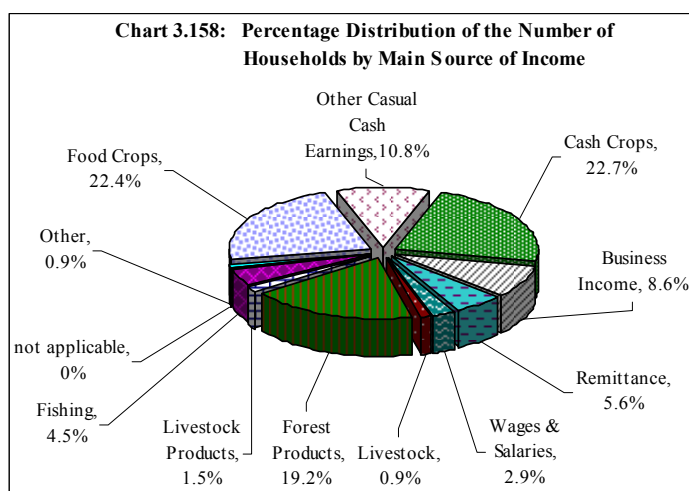
3.13.9 Food Security

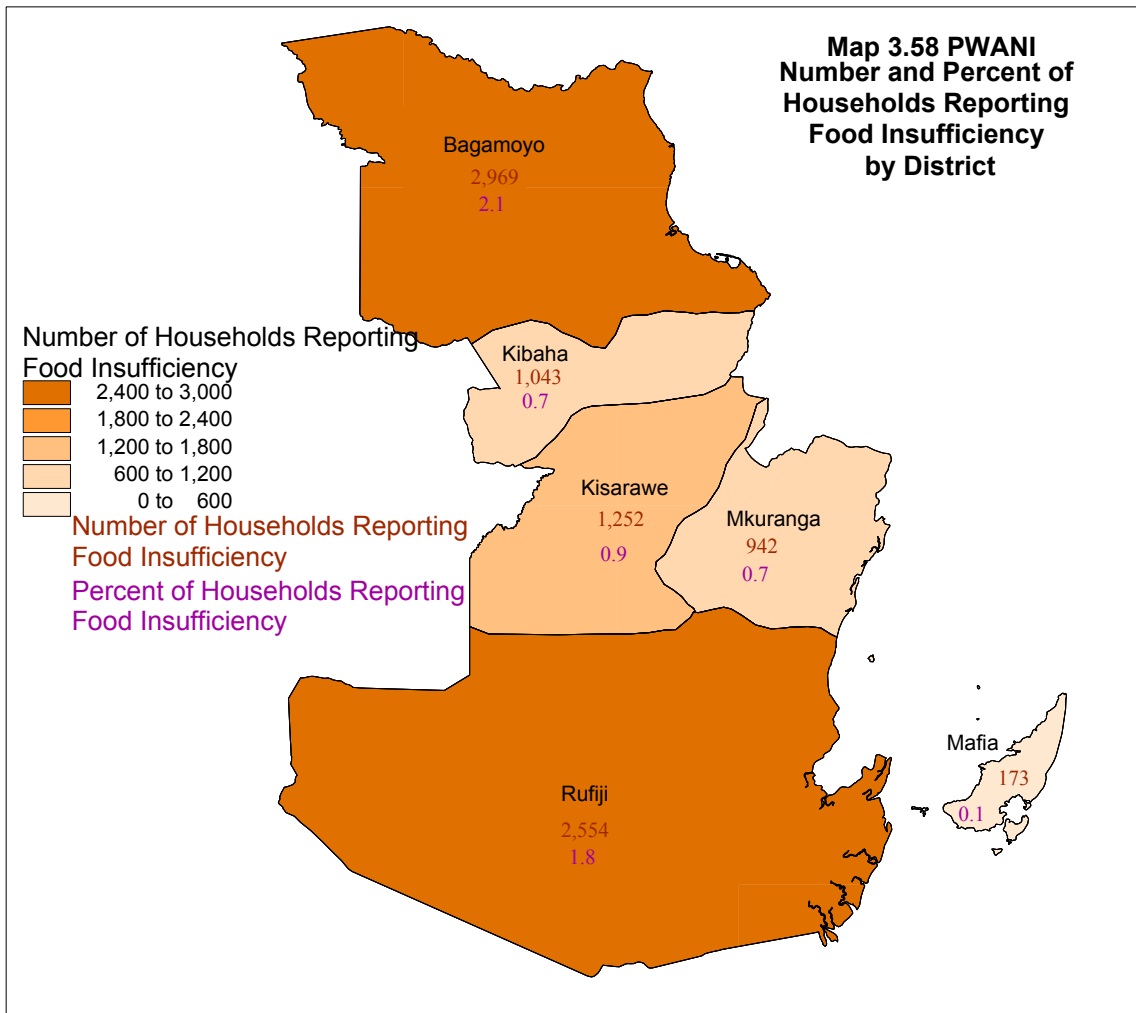
In Pwani region, 53,900 households (38.1% of the total agricultural households in the region) said they rarely experienced problems in satisfying the household food requirement. However 12,124 (8.6%) said they sometimes experience problems, 20.9 often experienced problems and 6.3 percent always had problems in satisfying the household food requirement. About 26.2 percent of the agricultural households said they did not experience any food sufficiency problems (Map 3.58).

3.13.10 Main Sources of Cash Income

The main source of cash income of the households in Pwani region was from selling cash crops (22.7 percent of smallholder households), followed by sale of food crops (22.4%), selling of forest products (19.2%), casual cash earnings (10.8%), businesses (8.6%) and cash remittances (5.6%), fishing (4.5%), wages and salaries in cash (2.9%).

Only 1.5% of smallholder households reported the sale of livestock products as their main source of income, followed by other unspecified sources (0.9%), and lastly, sale of livestock (0.9%). (Chart 3.158).





4 PWANI PROFILES

This section presents the status of crops and livestock production, access to natural resources and services, demography and poverty for both the region as a whole and for each district.

4.1 Pwani Region Profile

The region profile describes the status of the agriculture sector in the region and compares it with those of other regions in the country.

Pwani region has a land area of around 250,700 hectares under crop production but had a small number of crop growing households and very few with livestock, compared to other regions. It ranked 15th in the number of crop growing households per square kilometer. The available planted land area per household was (1.8 ha/household) and almost all the land available to smallholders was utilized. The region has two rainy seasons with the long rainy season being more important. Cereal production is not important (ranked 19th among regions on Mainland) and it had one of the smallest planted areas of maize in the country. However paddy production was relatively important but sorghum was grown in small quantities. Cassava was moderately important; beans or groundnuts were insignificant in the region. Vegetable production was small compared to other regions.

Pwani had the 4th largest planted area of cashew nuts but ranked first in the planted area for coconuts. It had the second largest area planted with oranges in the country.

Compared to other regions, Pwani had a very small planted area under irrigation in the country. The number of households practicing irrigation appears to have increased over the period of 8 years prior to the census. The source of irrigation water was equally split between wells and rivers followed by dams. Use of buckets/watering cans was the most common method of obtaining irrigation water closely followed by unspecified means. Irrigation application was mostly by buckets/watering cans and to a lesser extent, the flood method. Water hose and sprinklers were not widely used.

The method of cultivation in Pwani was almost entirely by hand and virtually no fertilizers or pesticides were used. Storage was predominantly in locally made traditional cribs. Pwani had little crop produce to sell and the percent of households selling was very low. Compared to other regions, the percentage of smallholder households processing crops was insignificant. However, it had the highest percent of households processing crops by hand. In the case of those who process crops, the region had the least number of households selling processed products compared to other regions.

Compared to other regions, the percent of smallholders receiving extension services was moderate, most of them from the government followed by large scale farms.

Pwani had a small number of planted trees by smallholders. Compared to other regions, the percent of households with erosion control/water harvesting facilities was insignificant to low, with erosion control bunds being one of the most prominent, followed by tree belts.

Pwani was among the regions with the lowest livestock population and even lower in terms of cattle density, ranking 19th in the country. Most of the cattle kept were the indigenous type and cattle rearing came first in the region, followed by goats, sheep and pigs. Milk production was very low (ranking 18th in the country) and since the demand was very high, the farm gate price of milk was correspondingly high. Goats as well as sheep and pigs were few, in line with the fact that the region was among the last ranked regions in livestock rearing. Pwani ranked 13th in the population of chicken compared

to other regions, almost all was entirely made up of layer breed but it was among the three leading regions in layers population in the country. Its egg production was among the lowest in the country.

The use of organic fertilizers was very low (ranked 17th) and percentage of area being applied per livestock rearing household was also low. Use of draft animals for cultivation in the region was very limited, with an insignificant percentage of households using them.

The disease infection rate was moderate to high for most diseases. The region ranked 7th in the rate of helminthiosis infection compared to other regions. Access to livestock infrastructure and services was between average and poor. In relation to livestock population Pwani ranked 18th but received disproportionately more extension advice compared to other regions with much higher livestock populations such as Shinyanga, Arusha, Manyara, Mwanza and Tabora regions. It ranked 15th in the percentage of households receiving extension advice but was among the last in number of livestock kept. The Agricultural Census did not capture any fish farmers in Pwani region; hence no information is available on this in the report.

Pwani region has the fourth smallest rural agriculture population in Tanzania (712,995 persons of which 354,379 are males and 358,616 females). It has a moderate number of rural households involved in agriculture (141,530) compared to other regions. It has 89.7 percent of rural households and 78.5 percent of total households in the region (including urban) that are involved in agriculture. The region has an average household size of 5 persons per household and it has a low percent of female headed households (19%) compared to other regions. Crop only farming dominates and there is virtually no pastoralists in the region. The number of households keeping livestock only is very small.

Land under customary law is the predominant type of land ownership, accounting for 76 percent of the total rural smallholder owned land. There is a very small amount of land under official titles. The region has an average access to their fields with about 50 percent of the rural agriculture households having their nearest field less than 100 m from the homestead. Access from the field to the nearest road is relatively poor.

Pwani region has comparatively low percent literate rural agriculture population in the country (63%) compared to other regions and the difference between the literacy rate of males and females is fourth highest with 13.4 percent more literate males than females. It has a comparatively low percent of the rural agriculture population that have completed school and a moderate percent of household heads with no education.

The most important livelihood activity is crop farming followed by livestock keeping/rearing and tree/forest resources. Off farm income is the least important livelihood activity. The percent of the rural agriculture population working full time in farming is high (more than 75%). The main source of cash income for Pwani is from the sale of food crops followed by sale of cash crops and sale of forest products. Pwani has a low percent of households receiving credit mainly from cooperatives (65%).

The region has a low percent of households that use modern roofing material (around 27%) and the rest is mainly with grass/leaves/mud. Almost all households in the region have toilet facilities (93.7%). Energy for lighting is mainly from wick lamps (78.5%) and about 15 percent of households use hurricane lamps. Most water used for drinking in Pwani is from unprotected wells (53%), however, 14 percent of households use piped drinking water. About 10 percent of households in Pwani region obtain drinking water from protected wells.

Most rural agriculture smallholders in Pwani are living a subsistence existence with about 25 percent of the agriculture households using more than 50 percent of their livelihood activities for non subsistence purposes. Most households eat three per day (64.7). It has a low percent of households that do not eat animal protein in one week and a relatively high percent of households that eat animal protein every day. The region has the highest percent of households that face problems in satisfying the household food requirements. It has a moderate access to services and infrastructure in the country. About 36 percent of the households in the region reported insufficiency of land which is moderate in the country.

Pwani Region has the same number of males and females (50% males and 50% females). The region has a very slender population pyramid over the ages 20 to 44 and this is more so for males than it is for females. This would suggest that there is a large out-migration from the region over this age range and that more males have the opportunity to leave than females. The result is a relatively moderate feminisation of the agriculture sector in this region. Over the 15 to 19 age range there are more males than females in the region. The region has an active agriculture population of 358,210 of which 168,746 are males and 189,464 are females and there is a small difference between the percent of total male and female active population in the region (47% and 53% respectively). The region has the 2nd lowest number of households in the country compared to other regions (141,530, out of which 115,108 are male headed and 26,422 are female headed). It also has the 11th highest percent of female headed households in the country. The average household size is the similar to the National average (5.3 members per household for male headed households and 4.1 for female headed households), resulting in a difference in the household size of 1.2 more members in male headed households compared to female headed households.

Pwani region has the lowest percent of households keeping livestock and, whilst a higher percent of males keep livestock compared to females, the difference is the smallest in the country.

There is a relatively large difference in the dependency ratio between male and female headed households (109 dependants for every 100 active members in male headed households and 121 dependants for every 100 active members in female headed households). The region has a large difference in sex ratio of the active agriculture population between male and female headed households (103:100 in male headed households compared to 50:100 in female headed households).

Pwani has the 12th largest difference in literacy rates between male and female household heads with an illiteracy rate of 22 percent of male household heads and 54 percent of female household heads. Taking the overall population of male and female members in the region there are 13 percentage points more illiterate females than males and this is 2nd highest difference in the country

Pwani has a moderate to low percent of orphans in the country and there is little difference between male and female headed households. No orphan heads of households were detected in Pwani.

Pwani has around 10 percent of children with off farm income and this is more prevalent in female headed households (15% with off farm income) compared to male headed.

As with all regions, Pwani has more land per household in male headed households than in female headed households. However the difference is small compared to other regions. Pwani region had one of the smallest percent of households reporting insufficiency of land (38%), however there is no difference between male and female headed households. Female headed households in Pwani have around 38 percentage points more female land holders compared to male headed households and this difference is moderate compared to other regions. Pwani has 38 percent of female headed households with female land holders. Assuming that male household members of female headed households do not have rights to land, this would imply that 62 percent of female headed households have insecure access to land in Pwani. Pwani has a

higher percent of female headed households using customary land compared to male headed households, whilst a higher percent of male headed households have land under certificate of ownership and bought land.

Pwani has a low percent of households with cattle compared to other regions and differences between male and female headed households could not be detected. Pwani has the lowest percent of households with goats and the difference in the percent of male and female headed households keeping goats is relatively small. However the number of goats per household is high and there is a difference between male and female headed households with male headed households having 8 more goats per household compared to female headed households. Sheep keeping is not important in Pwani. Pig keeping in Pwani is also not important however it is important in female headed households with 26 percent of female headed households keeping compared to 1 percent in male headed households.

Compared to other regions, a moderate percent of households use improved seeds in Pwani region and a higher percent female headed households use improved seed compared to male headed households (11 percentage points more female than male headed households) and this is the highest differential in favour of female headed households in the country. The region has one of the smallest usage of insecticides in the country. It also has one of the highest percent of households not using fertiliser and there is little difference between male and female headed households. Little farm yard manure is used and only by male headed households, however the region has the highest percent of households using compost with slightly more male headed households than female headed households. Very little inorganic fertiliser is used in Pwani region. The region has the 3rd smallest area under irrigation in and there is little difference in the percent area under irrigation in male headed households compared to female headed households, with only 3 percentage points more male headed households than female headed households having irrigation.

About 25 percent of the households in Pwani region receive extension advice and the difference between male and female headed households is small.

In terms of planted area, Pwani has a smaller short rainy season compared to the long rain season. In Pwani, 49.0 percent of male headed households plant crops compared to 52.8 percent of female headed households in the long rainy season and for those that do not plant the main reason is associated with rains. However a relatively high percent of households do not plant crops and this was followed by illness. There is little difference in the percent of male and female headed households planting during the short rainy season (3.2 percentage points more male than female headed households) and the main reason for not planting during this season was due to rains (60% male headed and 71% female headed households).

Pwani has a high percent of planted area with maize in the country and there is no difference between male and female headed households. The yield of maize in the region is one of the lowest in the country and there is no difference between male and female headed households. Pwani has the third highest percent of households growing paddy in the country and there is no difference between male and female headed households and there is no difference in yield.

Pwani has a small percent of households utilising secondary products and there is little difference between male and female headed households.

Pwani has a high number of cattle sold per household (2.0/hh) compared to other regions and there is a large difference between male and female headed households (2.0 cattle sold per household in male headed households compared to 0.4 per female headed household). More female headed households consume cattle than male headed households. In Pwani region, a large number of goats are sold per household compared to other regions (2.2/hh) and male headed households sell 0.8 more goats per household than female headed households. The number consumed per household is higher than in any other region and it is almost entirely by male headed households.

Pwani region has a moderate percent of active agriculture household members working full time on farm (60% of active members) and there is a small difference between male and female headed households (5 percentage points more are working full time in male headed households compared to female headed households). Of the most active agriculture population (18 to 44 years of age) 73 percent of males and 81 percent of females are mainly involved in agriculture. In male headed households, 75 percent of the male members and 81 percent of female members are mainly involved in agriculture, whilst in female headed households 63 percent of males and 76 percent of females are mainly involved in agriculture. Pwani region has one of the smallest percent of boys and girls involved in agriculture (9 percent of boys and girls). There is no difference in the percent of boys involved in agriculture in female headed households compared to male headed households and there is no difference in the percent of girls involved in agriculture between male and female headed households. Thirty percent more elderly males compared to elderly females in male headed households are involved in agriculture in the region.

Pwani region has the smallest percent of households storing crops (25% of households) and there is no difference in the percent of households storing crops between male and female headed households. More female headed households store crops in locally made traditional cribs compared to male headed households and it has the highest percent difference in storage in modern stores in favour of female headed households. This is in contrast to male headed households where a higher percent of male headed households store crops in sacks/open drums and improved cribs compared to female headed households. Male headed households have 25 percentage points more households having up to a quarter loss compared to female headed households. A higher percent of male headed households process crops in Pwani region compared to female headed households.

Very little credit is provided in Pwani region (1% of households) and slightly more is provided to male headed households, The main reason for not using credit is that they do not know how to access it followed by not available and don't know about credit.

The region has the one of the smallest percent of households with modern roofing material in the country (41% of households in the region) and there is no difference between male and female headed households. Most households use wick lamps/firewood and there is no difference between male and female headed households. Most households use firewood for cooking and there is no difference between male and female headed households.

The region has a small percent of households with piped drinking water (10%) and there is little difference between male and female headed households. Nine percent of households have no toilets and female headed households have 3 percentage points more compared to male headed households.

The difference in the ownership of assets (radio, iron and bicycle) between male and female households is high, in favour of male headed households, for all regions. Pwani has a moderate percent of households with radios and irons and it has a comparatively high percent of bicycles. In Pwani male headed households have 27 percentage points more radios, 7 percentage points more irons and 32 percentage points more bicycles than female headed households.

There is no difference between male and female headed households in the number of meals household members eat per day in all regions. In Pwani region, a higher percent of male headed households eat meat more times per week than female headed households and the difference is comparatively moderate. Pwani region has a small to moderate difference between male and female headed households in the percent of households facing food shortages (about 7 percentage points more female headed households face food shortage problems compared to male headed households).

4.2 District Profiles

The following district profiles highlights the characteristics of each district and compares them in relation to population, main crops and livestock, production and productivity, access to services and resources and levels of poverty.

4.2.1 Bagamoyo

Bagamoyo district had the largest number of households in the region one quarter of which were involved in smallholder agriculture in the region. Most smallholders were either involved in crops only or crops and livestock production. It had a very small number of livestock only households and no pastoralists were found in the district.

The most important livelihood activity for smallholder households in Bagamoyo district was annual crop farming, followed by tree/forest resources and off farm income activity. The district had the third highest percent of households with no off-farm activities and more than a ninety percent of its total households having more than one member with off-farm income. The percentage was second highest for the agricultural households with off farm income. Compared to other districts in the region, Bagamoyo had the second highest percent of female headed households (28%) but was ranked 5th in the average age of household heads (48.8 years). With an average household size of 5.1 members per household it had the third highest for the region. The district had the highest literacy rate among smallholder households and this was also reflected by the highest level of school attendance in the region. The literacy rate for the heads of household was high compared to most districts in the region. However the situation in the region is that the majority of heads of agricultural households (54%) had primary level education whereas only 3% had post primary education.

Bagamoyo had the smallest percentage (68%) of utilized land area indicating that the available or usable land for agricultural activities was not fully utilized like that of Mafia which was highest (94%). The total planted area was the largest in the region due to the presence of good wet and dry seasons. It had the second highest planted area per household (1.8ha). Also Bagamoyo ranked 3rd highest in quantity harvested. The average areas planted with annual crops in small holdings during the short and long rainy seasons were 0.52ha and 0.59ha respectively.

The planted area for cereals crops (maize, paddy, sorghum, finger millet and bulrush millet) and maize in particular ranked first in the region. Bagamoyo ranked first in planted area for maize with a planted area of 37,477 ha. Bagamoyo was also the leading district in regard to the size of planted area per maize-growing households in the region. Paddy production ranked 3rd with a planted area of only 5,226 hectares and the production of sorghum though on a planted area of 1,887 hectares was highest in the region. Area planted with cassava was the 4th largest and the production was moderate accounting for 12 percent of the total cassava harvested, and it was the region's second favourite annual crop. Among the six grouped categories of annual crops, the production of pulses in Bagamoyo was the highest in the region with a planted area of 7,332ha (42%). In terms of planted area for oilseeds and oilnuts, Bagamoyo ranked first in the region accounting for 64.1% of the total planted area. However the district ranked 4th in groundnuts which was the region's 14th crop in terms of planted area. Sunflower was grown only in Bagamoyo district, in the long rain season. Vegetable production was of moderate importance in the district as it was second lowest in terms of planted area. It ranked third in the area planted with tomatoes (80ha.) as well as for water mellon (20ha). Chillies production was insignificant even in the region except for Mkuranga's 6ha planted area. Total traditional cash crops grown in Pwani were contributed by cotton in Bagamoyo (141ha.) and seaweed in Mafia district (354ha.).

Compared to other districts in the region, Bagamoyo had the second largest planted area for permanent crops (19.3%) which were dominated by cashewnuts (6,214 ha), coconuts (3,155 ha), oranges (2001 ha), pineapples (1,762 ha), mango (1,261 ha), bananas (790 ha), pawpaw (207 ha) and pigeon peas (206 ha). Other permanent crops were either not grown or were grown in very small quantities.

As with other districts in the region, most land clearing and preparation was done by bush clearance or leaving the land without clearing. Ploughing was mainly done using the traditional handhoe (94.7% of planted area during the long rainy season and 96% during the two combined seasons) followed by tractor and oxen ploughing.

The use of inputs in the region was very small, however district differences existed. Bagamoyo had the largest planted area applied with improved seeds in the region and this was due to the highest planted area of cereals followed by pulses and had the largest number of households using improved seeds.

The district had the largest planted area with fertilizers (farm yard manure, compost and inorganic fertilisers), however most of this was compost. Compared to other districts in the region, Bagamoyo district ranked 4th in the level of insecticides use as well as fungicides. It had the second largest area under irrigation compared to other districts. The most common sources of water for irrigation were rivers and wells. Bucket/watering cans and flood water were the most common means of irrigation water application and only a very small amount of sprinkler irrigation was used. Use of water hose was insignificant.

The most common method of crop storage was in locally made traditional cribs followed by sacks and open drums. However the proportion of households storing crops in the district was third highest, with the highest quantity in tons of stored crops than other districts in the region. The district had the largest number of households selling crops. Regarding those who did not sell, the main reason for not selling was insufficient production followed by prices being too low. The district had the 4th highest percent of households processing crops in the region and almost all processing was done using neighbour's machine. The district had the least percent of households selling processed crops and the portion sold was to other unspecified groups, followed by traders on farm. Although very small, credit in the district was only accessed by male headed households and the sole source was from commercial banks option.

The largest number of households receiving extension services was in Bagamoyo and most of this was from the government (96%). The quality of extension services was rated between good and very good by the majority of the households.

Tree farming was of low importance in Bagamoyo (with 40,698 or 11.6% planted trees) and most of these were *tectona grandis* spp. The households ranked fifth or 8% of those involved with erosion control and water harvesting structures in Pwani region. These structures were mostly erosion control bunds followed by tree belts.

The district had the largest number of cattle in the region and they were almost all indigenous followed by dairy. The district also ranked first in the production of goats, sheep and chicken but had the least number of pigs. Although small, the district had the largest number of layers in the region but no broilers. It ranked first in number of ducks, rabbits and other unspecified livestock; but no turkeys or donkeys were found in the district. The largest number of households reporting tsetse and tick problems were recorded in Bagamoyo district and it had the largest number of households deworming livestock (54% of the region's households reporting on this). The use of draft animals in the district was absent; fish farming was not only absent in the district but also in the region.

It had a second best access to secondary schools, primary schools, health clinics and primary markets compared to other districts. It also had a better access to tarmac roads, all weather roads and the regional capital.

Bagamoyo district had the second highest percent of households with no toilet facilities (25.4%). It had the highest percent of households owning a radio, bicycle, iron, mobile phones, wheelbarrow, vehicle and tv/video but the lowest in landline phones. It ranked first in percentage (38%) of households using mains electricity. The most common source of energy for lighting was the wick lamp (ranked first though constituted a quarter of all households in the region using this lighting facility) and practically the district ranked first in households using firewood for cooking accounting for 25% of total households in the region who reported using this source of energy. The district had the smallest percent of households with grass roofs, ranking 5th although 53% of its households confirmed of grass roofs and 34% confirmed about iron sheet roofs ranking second in the region.

The most common source of drinking water in the region in the wet season was from unprotected wells followed by piped water and surface water. Bagamoyo ranked first in households using piped water (58%) and also ranked first in use of surface water (lakes/dams/rivers/streams) accounting for 45% in the region. It had the highest percent of households in the district having three meals per day compared to other districts and one quarter of its households has 2 meals per day, ranking 4th in the region. The district had the highest percent of households that did not eat meat (27%) and highest percent (50%) who did not eat fish during the week prior to enumeration. However most households never had problems with food satisfaction, ranking second in the region.

4.2.2 Kibaha

Kibaha district ranked 4th in the number of households in Pwani region and had the second smallest percent of households involved in smallholder agriculture. Most smallholders were involved in crops only, followed by crops and livestock. It had a very small number of livestock only households and no pastoralists. No pastoralists were captured by this Census in Pwani region.

The most important livelihood activity for smallholder households in Kibaha district was annual crop farming, followed by off-farm income then permanent crop farming. The district had the 3rd lowest percent of households with no off-farm activities and had the second highest percent of households with more than one member with off-farm income. Compared to other districts in the region, Kibaha had the second highest percent of female headed households (20%) and it had a moderately high average age for the household heads in the region (49.1 years). Its average household size of 4.5 members per household was the lowest in the region. Next to Mafia, Kibaha had a significantly high literacy rate among smallholder households though not reflected the level of school attendance which was moderately low.

It had the third largest utilized land area per household (1.7ha) and 77 percent of the available area was currently being utilised. The district had the second lowest planted area per household in the region, and the third highest in average planted area per household being 0.53ha. in the combined seasons or 0.65ha in the long rainy season and 0.31 in the short rainy season.

The district ranked fifth in maize production in the region with a planted area of over 5,215ha, but the planted area per maize growing household came second in the region. The district had the third lowest planted area of paddy in the region with 3,794 hectares. The area planted per sorghum household came second. Although bulrush millet was grown no production was recorded. Finger millet, wheat and barley were not grown in the district. Cassava production was second lowest, accounting for 7 percent of the quantity harvested in the region. The production of beans in Kibaha district was highest with a planted area of 12ha., and also ranked highest in area planted per household (0.21ha.) Kibaha district had the second smallest oilseeds crops planted area in Pwani region with a planted area of 123 ha. The district came third in

groundnut crop planted area with a planted area per groundnut growing household of 0.2 ha an area which was close to the region's average. Sunflower was not grown in Kibaha district. Vegetable production was of great importance in the district and had the largest planted area for tomatoes (458 ha) in the region but came fourth in production of water melon. No planted area was recorded for chillies, radish, onions, cabbage, spinach and bitter aubergine although they were grown elsewhere in the region. Okra was grown but no production was recorded. Traditional cash crops (e.g. tobacco and cotton) were not grown in Kibaha district.

Compared to other districts in the region, Kibaha had the smallest planted area for permanent crops (6%) which was dominated by cashewnuts (2,062 ha), coconuts 1,317 ha), oranges (1,201 ha), grapefruits (149 ha), and bananas (64 ha) and pigeon peas (46 ha). Other permanent crops were either not grown or were grown in very small quantities.

As with other districts in the region, most land clearing and preparation were done by hand slashing, however a very small amount of land preparation was done by bush clearance followed by the option of no land clearing. Ploughing was by hand hoe followed by oxen then tractor ploughing.

The use of inputs in the region was very small, however district differences existed. Kibaha had the second largest area planted with improved seeds in the region and this was due to the dominance of cereals and pulses within the district. It had the third highest proportion of households using improved seeds. The district had the third largest planted area applied with fertilizers (farm yard manure, compost and inorganic fertilisers), most of which was farm yard manure. Compared to other districts in the region, Kibaha district had the highest level of insecticides use. The use of fungicides was the second highest but it had the fourth application of herbicides in the region. With 467ha of irrigated land, it had the second largest area under irrigation. The most common source of water for irrigation were rivers using gravity as well as wells. Bucket/watering cans and water hose were the two most common means of irrigation water application in the district.

The most common method of crop storage in Kibaha district was sacks/open drums followed by locally made cribs. Of the households storing crops in the district, it ranked second in quantity stored. Kibaha district had the second least number of households selling crops. Kibaha was among the districts with the lowest percent of households processing crops in Pwani region and this was almost all done on farm by hand. No agricultural households accessed credit in the district.

The district had the second least number of households that received extension services and all of these were from the government (95%) and large scale farms. The quality of extension services was rated between good and average by the majority of the households.

Tree farming was of highest importance in Kibaha (with 226,797 planted trees or 64.5%) and most trees were melicia excelsa, senna spp, acacia spp and eucalyptus spp. The 3rd highest proportion of households with erosion control and water harvesting structures was found in Kibaha district and these were mostly erosion control bunds and tree belts. Also Kibaha had use of terraces and dams not recorded in the other districts.

The district had the 3rd largest number of cattle as well as sheep, goats and pigs in the region and about 77.4% of cattle were indigenous, followed by dairy cattle. It ranked fifth in the number of chicken in the region and most of those were broilers. Ducks, turkeys, rabbits and other livestock in the district were insignificant in number. It ranked fifth in the

number of households that reported tsetse and tick problems had the second highest percent of households de-worming livestock. The district had no households using draft animals or fish farming.

It had the best access to secondary schools, primary schools, primary and secondary markets compared to other districts. It also had one the best accesses to all weather roads, regional capital, feeder roads and tarmac roads.

The percentages of households without toilet facility in Kibaha district was 6 percent and this was the lowest in the region. Also it ranked fifth in percentage of households that owned various household assets and these were radios, bicycles, irons, mobile phones, wheelbarrows but had a moderate number of households owning landline phones, vehicles and tv/video. The most common source of energy for lighting was the wick lamp followed by the hurricane lamp and mains electricity. Practically all the agricultural households used firewood for cooking followed by charcoal. Within the district, roofing materials were grass/leaves (52% and ranked last in region), and iron sheets (46%, ranking first in region). The most common source of drinking water in the wet season was from piped water followed by unprotected wells and surface water. Though it ranked last, half of its households reported having three meals per day. However it ranked first in households having two meals compared to other districts. The district had the second lowest percent of households that did not eat meat but a higher percent of those that did not eat fish during the week prior to enumeration. A moderately low number of households seldom had problems with food satisfaction and ranked fourth accounting for 12% in the region regarding this aspect.

4.2.3 Kisarawe

Kisarawe district had the second least number of households in the region and it had the fourth highest percent of households involved in smallholder agriculture in the region. Most smallholders were involved in crops only, followed by crops and livestock. It had a very small number of livestock only households.

The most important livelihood activity for smallholder households in Kisarawe district was permanent crop farming, followed by annual crop farming and then tree/forest resources. However, the district had the lowest percent of households with no off-farm activities and third lowest percent of households with more than one member with off-farm income. Compared to other districts in the region, Kisarawe had the second lowest percent of female headed households (16%) but second highest average age of the household heads in the region. Its average household size of 4.6 members per household was below the average for the region. Kisarawe had a comparatively moderate literacy rate among smallholder households and this was reflected by the relatively moderate level of school attendance in the region. The literacy rate for the heads of household was the second in the region.

It had the second least utilized land area per household (1.5ha) and lower than the regional average of 1.8ha. Ninety one percent of the allocated area was currently being utilised. The total planted area was 3rd lowest in the region due to the absence of good wet and dry seasons. Also it had the second lowest planted area per household (0.42ha).

The district came fourth in maize production in the region with a planted area of over 6,472ha. The planted area per household was 0.4ha which was the second lowest in the region. In paddy production it came fifth in the region. with a planted area of 1,707 hectares. Bulrush millet, finger millet, wheat and barley were not produced in the district. The district had the third largest planted area for cassava accounting for 19.1 percent of the cassava planted area in the region but first in quantity harvested (31%). The production of beans in Kisarawe was important as it ranked second in planted area. Oilseed crops were important in Kisarawe with 38 percent of the region's planted for groundnuts being in that

district. Sunflower was not grown in the district. Vegetable production was fairly important in the district and it had the fourth largest planted area for tomatoes and the second largest for water melon (64 ha and 27 ha respectively) and accounted for 12 percent of the tomato production and 14 percent of the water melon production in the region. Traditional cash crops (e.g. tobacco and cotton) were not grown in Kisarawe district.

Permanent crops were fairly important in Kisarawe district as 12.7% of the total permanent crop planted area in Pwani region was found in the district. The most prominent permanent crops in the district were cashew nuts (3,541 ha), oranges (1,937 ha), coconuts (1,575 ha), bananas (1,100 ha), jackfruits (1,042 ha), pigeon peas (441 ha), mango (302 ha.) and pawpaws (170 ha). Other permanent crops were either not grown or were grown in very small quantities.

As with other districts in the region, most land clearing and preparation was done by hand, however a very small amount of land preparation was also done by bush clearance followed by no land clearing. Ploughing was by hand hoe followed by oxen then tractor ploughing.

The use of inputs in the region was very small, however district differences existed. Kisarawe had the third largest planted with improved seeds and this was due to the dominance of cereals, roots and tubers crops. However, it had the fourth highest percentage of households using improved seeds. The district had the fourth largest area applied with fertilizers (farm yard manure, compost and inorganic fertilisers), and most of this was compost. Compared to other districts in the region, Kisarawe district had the second least application of insecticides and fungicides, and it came last in the use of herbicides. It had the second least area under irrigation with 193 ha of irrigated land. The most common source of water for irrigation was the well, using hand bucket. Bucket/watering cans was the most common means of irrigation water application.

The most common method of crop storage in Kisarawe was locally made traditional crib. However the proportion of households storing crops in the district was second highest in the region but the quantity stored was the least. The district had the fourth highest percent of households selling crops, however for those few that did not sell, the main reason for not selling was insufficient production followed by trade union problems. Kisarawe district ranked first in processing crops and almost all of it was done on farm by hand and to a lesser extent, using a neighbour's machine. The district had the fourth highest percent of households selling processed crops and selling to neighbours ranking high in the district. No households accessed credit in the district.

Kisarawe had the second largest number of households receiving crop extension services most of which were from the government (98%). The quality of extension services was rated between good and average by the majority of the households.

Tree farming was of low priority in Kisarawe district (with 27,184 planted trees, 7.7%) and these were mostly cyprus spp, moringa spp, with some senna spp. The fourth highest proportion of households with water harvesting bunds and erosion control bunds were found in Kisarawe district. It also had the only recorded gabions/sandbags in the region as a measure against erosion in the region.

The district had 2.6% of the total cattle in the region and ranked fifth. The cattle were almost all indigenous followed by the dairy breed. In regard to the number of goats it came fourth and there was no sheep production recorded. It had the least number of pigs in the region (2,226 or 61%) and one of the least number of chicken ranking fourth. Most of the chicken were of the indigenous breed followed by layers and broilers breeds. However, the district had around 14% of all the indigenous chicken in the region. As for improved breed, it ranked second in layers and highest in the number of broilers. The district had the fourth largest number of ducks, and no rabbits nor donkeys recorded but ranked second in rabbits. All

other unspecified types of other livestock category in the region were not recorded in Kisarawe . It had the third highest number of households reporting tsetse and tick problems. Though small, de-worming of livestock was moderately practiced as it ranked fifth. Kisarawe did not use draft animals to cultivate the land; also it did not practice fish farming.

It had moderate access to secondary schools, primary schools, health clinics, feeder roads, all weather roads and primary markets compared to other districts. Also it had a moderate access to feeder roads and the regional capital.

Kisarawe district had the second lowest percent (6.8%) of households with no toilet facilities and it was among the high percentages of households owning household facilities in general ranking fourth in the region. It owned radio, bicycles, iron, wheel barrows, Tv/video and vehicles; had the lowest percent of landlines and mobile phones. It had the second least number of households using mains electricity in the region. The most common source of energy for lighting was the wick lamp followed by hurricane lamp, firewood and pressure lamp. Practically all households used firewood for cooking. The district had the fourth highest percent of households with grass roofs (65%) and 26 percent of households having iron sheets roofing. The most common source of drinking water was the unprotected well followed by uncovered rainwater catchments. Thirty eight percent of the households in the district reported having one or two meals per day and it ranked first in households which reported having three meals per day at most. The district had a moderate percent of households that did not eat meat or fish during the week prior to enumeration, however the district had the highest percentage of its households that often had problems with food satisfaction than the other categories.

4.2.4 Mkuranga

Mkuranga district had the third largest number of households in the region and it had about one quarter of households involved in smallholder agriculture in the region. Most smallholders were involved in crops only, followed by crops and livestock. It had neither livestock only households nor pastoralists.

The most important livelihood activity for smallholder households in Mkuranga district was permanent crop farming, followed by annual crop farming and off farm income. However, the district had the highest percent of households with no off-farm activities and one quarter of its total households with more than one member with off-farm income. Compared to other districts in the region, Mkuranga had the third highest percent of female headed households (22%) and was the first in average age of the household heads (50.8 years). With an average household size of 5.2 members per household it had the second highest for the region. Mkuranga had a comparatively high literacy rate among smallholder households and this was reflected by the concomitant high level of school attendance in the region.. The literacy rate for the heads of household was also higher than most of districts in the region.

It had the highest utilized land area per household (2.12ha) and above the regional average of 1.8ha. indicating that the allocated area was almost fully utilized (86%). The total planted area was the second largest in the region due to the presence of good wet and dry seasons, however it had the fourth highest planted area per household (0.5ha) and ranks second highest in the number of smallholders in the district.

The district ranked third in planted area for maize production in the region with a planted area of 8,413 ha, and the planted area per household was third lowest in the region. Paddy production was very important with a planted area of 5,837 hectares but the production of sorghum was insignificant. Cassava production was also very important accounting for 24 percent of the quantity harvested in the region. The district had the largest planted area of cassava, a crop which ranked second in the region (after maize) in terms of the area planted with annual crops (17,569 ha). The production of beans was

nil, were produced only in Kibaha, Kisarawe and Bagamoyo districts only. Oilseed crops were not important in Mkuranga and accounted for 7.1% of all oilseed crops planted area in the region. However it ranked second in the production of groundnuts which was the region's 11th crop nationally in terms of planted area. Sunflower was not grown in Mkuranga district. Vegetable production was very important, ranking first in the region. It had the second largest area planted with tomatoes as well as water mellow (237 ha and 242 ha respectively). However, it was the only district with planted area for chillies and accounted for 100 percent of the chillies production in the region. Traditional cash crops (e.g. tobacco and cotton) were not grown in Mkuranga district.

Compared to other districts in the region, Mkuranga ranked first in planted area with permanent crops (36%) which was dominated by cashewnuts (19,636 ha), coconuts (4,569 ha), mandarines/tangerines (1,190 ha), oranges (1,162 ha), pineapples (906 ha), pigeon peas (613 ha), and mangoes (457 ha). Other permanent crops were either not grown or were grown in very small quantities.

As with other districts in the region, most land clearing and preparation was done by hand, however a very small amount of land preparation was done by bush clearance followed by option of no land clearing. Ploughing was by hand hoe followed by oxen then tractor ploughing.

The use of inputs in the region was very small, however district differences existed. Mkuranga had the third largest area planted with improved seeds in Pwani region and this was due to the high planted area of vegetables and ranked second in the number of households using improved seeds.

The district had the second largest planted area applied with fertilizers (farm yard manure, compost and inorganic fertilisers), most of which was compost. Compared to other districts in the region, Mkuranga district ranked second in the level of insecticides use. In the use of fungicides although small, it ranked first in the region and in the use of herbicides it ranked second. It had the largest area under irrigation compared to other districts with 1,974 ha of irrigated land. The most common sources of water for irrigation were wells and canals. Bucket/watering cans and flood water were the most common means of irrigation water application.

The most common method of crop storage was locally made traditional cribs where it ranked fourth in the region, however the proportion of households storing crops in the district was moderate, with moderate quantities in tons of stored crops in the region. The district had the third largest number of households selling crops, however for those who did not sell, the main reason for not selling was insufficient production. It was the second highest percent of households processing crops in Pwani region and almost all processing was done on farm by hand followed by on farm by machine. The district also had a high percentage of households selling processed crops to traders at farm and no sales were made to marketing cooperatives. The distribution of households accessing credit was 89% for male headed households and 11% for female headed households. The main sources were savings and credit, NGO's traders/trade stores and lastly, family friends and relatives.

Mkuranga had the third largest number of households receiving extension services and most of these were from the government (95%). The quality of extension services was rated between good and very good by the majority of the households.

Tree farming was of low importance in Mkuranga (with 14,512 or 4.1% planted trees) and most of these were eucalyptus, azadirachta spp and cyprus spp. The highest proportion of households with erosion control and water harvesting structures were found in Mkuranga district and these were mostly tree belts and erosion control bunds. It had the highest number of vetiver grass, unlike other districts which had none.

The district had the least number of cattle in the region and they were almost all improved dairy followed by indigenous. Goats and also sheep were among lowest. Pigs production ranked second compared to other districts in the region. It had a large number of chicken (all indigenous) and ranked second in turkeys, but no ducks, rabbits or donkeys were recorded. It had the least number of households reporting tsetse and tick problems and it also had the least number of households deworming livestock. No draft animals were used in the district and there was also no fish farming.

It had a better access to health clinics, hospitals and primary and secondary markets compared to other districts. It also had a better access to feeder roads and tarmac roads.

Mkuranga district had 14.5% of households in the region with no toilet facilities and in this it ranked fourth in the region. It also ranked fourth in the percentage of households owning radios, bicycles, irons, wheelbarrows and tv/videos but the lowest in mobile phones, and vehicles. It had a low number of households (7%) using mains electricity in the region. The most common source of energy for lighting was the wick lamp followed by hurricane lamp and practically all households used firewood for cooking having a quarter of total households that used firewood in the region. The district had the second highest percent (78%) of households with grass roofs and 20 percent of households having iron sheets. The most common source of drinking water in the wet season was the unprotected well followed by unprotected springs. It had the highest percent of households having one meal per day compared to other districts and two thirds of its households have 3 meals per day. The district had the second highest percent of households that did not eat meat and second lowest percent (4%) who did not eat fish during the week prior to enumeration. However most households never had problems with food satisfaction, ranking first in the region.

4.2.5 Rufiji

Rufiji district had the second largest number of households in the region and it had the second highest percent of households involved in smallholder agriculture. Most smallholders were involved in crops only, followed by crops and livestock. It had a very small number of livestock only households.

The most important livelihood activity for smallholder households in Rufiji district was annual crop farming, followed by tree/forest resources and permanent crop farming. The district had the second highest percent of households with no off-farm activities and had the third highest percent of households with more than one member with off-farm income. Rufiji had very few households with more than one member having off farm income. Compared to other districts in the region, Rufiji had the second highest percent of female headed households (25%) and it had one of the high average age of the household head in the region (49 years). With a household size of 5.4 members per household it had the highest for the region. Rufiji had a low literacy rate among smallholder households and this was reflected by the district having a moderate level of school attendance and highest percentage of those who never attended school.

It had the fourth largest utilized land area per household (1.6ha) and 86 percent of the allocated area was currently being utilised. The district had the third highest planted area in the region, and second highest in planted area per household either season (0.69ha in the long rainy season and 0.47ha in the short rainy season).

The district was second in importance for maize production in the region with a planted area of over 12,653ha, and the planted area per maize growing household was also high for the region. The district had the largest planted area of paddy in the region with 10,516 hectares. Bulrush millet, and wheat were not grown in the district; however, sorghum was very important and it ranked second in planted area. Cassava production was important, accounting for 25 percent of the quantity harvested in the region. The production of beans in Rufiji district was insignificant. Rufiji district had the second largest planted area for oilseeds crops with a planted area of 559ha. The district was second least in groundnuts planted area and a planted area per groundnut growing household of 0.2ha an area which was lower than the region's average. In Rufiji district, vegetable production ranked third in importance and it had the smallest planted area for tomatoes (25ha.) and no water melon. No planted area was recorded for chillies, cucumbers, eggplants, onions and cabbages although they were grown elsewhere in the region. Traditional cash crops (e.g. tobacco and cotton) were not grown in Rufiji district.

Compared to other districts in the region, Rufiji had third largest planted area for permanent crops (18.7%) which were dominated by cashewnuts (10,591 ha), coconuts (1,906 ha), oranges (1,294 ha), pineapples (533 ha), bananas (484 ha), pigeon peas (207 ha), and mangoes (160 ha). Other permanent crops were either not grown or were grown in very small quantities.

As with other districts in the region, most land clearing and preparation was done by hand, however a very small amount of land preparation was done by bush clearance followed by no land clearing. Ploughing was by hand hoe followed by oxen then tractor ploughing.

The use of inputs in the region was very small, however district differences existed. Rufiji had second least area planted with improved seeds in the region and this was due to the moderate planted area of cereals and cassava. However, it had the second least proportion of households using improved seeds. The district had the least planted area applied with fertilizers (farm yard manure, compost and inorganic fertilisers) and most of this was compost. Compared to other districts in the region, Rufiji district ranked third in the level of insecticides use. In the use of fungicides it ranked third and in the application of herbicides it ranked first in the region. It had the third largest area under irrigation compared to other districts with 298 ha of irrigated land. The most common sources of water for irrigation were wells and rivers using gravity. Flood water and bucket/watering cans were the two means of irrigation water application in Rufiji district.

The most common method of crop storage in Rufiji district was locally made traditional structure followed by sacks/open drums; however the quantity in tons of stored crops in the district ranked second. Rufiji district was second in the number of households selling crops in the region. Rufiji was among the districts with the highest percent of households processing crops in the region and almost all processing was done on farm by hand. Although very small, access to credit in the district was to male headed households only and the source was religious organisations/NGO's/projects only.

A moderately large number of households received extension services in Rufiji district and these were from the government (100%). The quality of extension services was rated between good and very good by the majority of the households.

Tree farming was third highest in the region (with 39,439 planted trees or 11.2%) and most trees were tectona and leucena spp. There were no households with erosion control and water harvesting structures in Rufiji district

The district had the fourth largest number of cattle in the region and they were mostly indigenous followed by improved beef. In goats and sheep production it ranked second but had no pigs. It had the third largest number of chicken mostly indigenous and layers but no broilers. In ducks and rabbits production it ranked third but no turkeys and donkeys were found in the district. It had the least number of households reporting tsetse and tick problems and the lowest percent of households de-worming livestock. The district had no households using draft animals or involved in fish farming.

It had a fairly good access to secondary schools, primary schools, primary markets compared to other districts but also had one of the worst access to the regional capital.

The percentage of households without toilet facility in Rufiji district was highest in the region (32 percent). It was among the districts with moderately high percent of households owning radios, tv/video and mobile phones and a moderate number owning bicycles but ranked first in wheelbarrows. Next to Bagamoyo, it ranked second highest in the number of households using mains electricity in the region. The most common source of energy for lighting was the wick lamp. Rufiji ranked third and practically all households used firewood for cooking accounting for 22% of total households that used firewood in the region. The district had the third highest percent (71%) of its households with grass roofs and ranked fifth with 18 percent of its households having iron sheets. The common source of drinking water in the wet season was from unprotected wells and unprotected springs. It had moderate to low percent of households having one to two meals per day compared to other districts and two thirds of its households have 3 meals per day. The district had one of the highest percentages of households that did not eat meat but among lowest percentages of who did not eat fish during the week prior to enumeration. However most households never experienced problems with food satisfaction, ranking third in the region.

4.2.6 Mafia

Mafia district had the smallest number of households in the region as well as the lowest percent of households involved in smallholder agriculture in the region. Most smallholders were involved in crops only, followed by crops and livestock. It had a very small number of livestock only households.

The most important livelihood activity for smallholder households in Mafia district was annual crop farming, followed by permanent crop farming and off farm income. However, the district had the second lowest percent of households with no off-farm activities and the lowest percent of households with more than one member with off-farm income. Compared to other districts in the region, Mafia had the lowest percent of female headed households (3%) and also the lowest average age of the household head in the region (45 years). With an average household size of 4.5 members per household it almost had the average for the region. Mafia had the highest literacy rate among smallholder households members but this was not reflected by the low level of school attendance in the region. It also had the lowest percentage of heads of agricultural households with both primary education and secondary education.

It had the least utilized land area per household (1.4ha) far below the regional average of 1.8ha but ranked first in percentage of the allocated area currently being utilized (94%). The total planted area was the lowest in the region due to the absence of good wet and dry seasons. Also it had the lowest planted area per household (0.37ha) attributed to the lowest in the region the number of smallholders in the district. The area planted per household was lowest in the long rainy season but ranked third lowest in the short rainy season.

The district was not important for maize production in the region with a planted area of about 90ha. and the planted area per household was 0.2ha which was the lowest in the region. Paddy production an annual crop which came third in the region after cassava and maize was of low importance with a planted area of 1,431 hectares. Bulrush millet, sorghum, finger millet, wheat and barley were not produced in the district. The district had the smallest planted area of cassava accounting for 1.7 percent of the cassava production in the region. Beans were not produced in Mafia. Oilseed crops were of less importance in Mafia with less than 1 percent of the groundnuts grown in the district. Sunflower was not grown in the district. Vegetable production was less important in the district. It had the second least planted area for tomatoes and no water mellon (31 ha) than other districts in the region and accounted for 3.3 percent of the tomato production in the region. The only traditional cash crop grown in Mafia was seaweed (100%).

Permanent crops were of least importance in Mafia district and planted area with permanent crops (7.8%) were dominated by coconuts (4,778 ha), bananas (920 ha), pineapples (372 ha), cashewnuts (220 ha), mangoes (50 ha) and oranges (40 ha). Other permanent crops were either not grown or were grown in very small quantities.

As with other districts in the region, most land clearing and preparation were done by hand, however a very small area of land preparation was done by bush clearance followed by no land clearing.. Ploughing was by hand hoe followed by oxen but no tractor ploughing.

The use of inputs in the region was very small, however district differences existed. Mafia had the least area planted with improved seeds in Pwani region and this was due to limited agricultural activity. It also had the least percentage of households using improved seeds. The district had the second least planted area applied with fertilizers (farm yard manure, compost and inorganic fertilisers), however it ranked first in the use of farm yard manure and inorganic fertilizers. Compared to other districts in the region, Mafia district had the least application of insecticides and fungicides to its planted area and ranked third in herbicides. It had the least area under irrigation compared to other districts with 32 ha of irrigated land. The most common sources of water for irrigation were wells and rivers using hand bucket and gravity. Bucket/watering cans and flood water were the most common means of irrigation water application.

The most common method of crop storage in Mafia was sacks and open drums, in which it ranked first followed by Kibaha. The proportion of households storing crops in the district was highest in the region and it ranked third in quantity in tons of crops stored in the region. The district had the least percent of households selling crops, however for those few that did not sell, the main reason for not selling was insufficient production followed by trade union problems. Mafia district was one of the districts in Pwani region with lowest percent (4%) of households processing crops and all processing was done on farm by hand. The district had the second least percent of households selling processed crops (35%) and all sales were to neighbours. There was no incidence of access to credit in the district.

Mafia had the least number of households receiving crop extension services and most of these were from the government (82%). The quality of extension services was rated between good and average by the majority of the households.

In tree farming it was last in the region (with 2,879 planted trees or 0.8%) and these were mostly moringa spp, with some melicia excelsa. The second highest proportion of households with water harvesting bunds and erosion control bunds.

The district had the second largest number of cattle in the region though only one tenth of the total in region and these were 84% indigenous followed by dairy and beef. Goats and sheep production were notably absent in Mafia as was the case with Kisarawe. Mafia had no pigs and had the least number of chicken most of which were indigenous followed by layers. The district had a large number of ducks, turkeys (97% and highest in region), but no rabbits. All other unspecified types under other livestock were found in Mafia ranking second in the region or 3%. It had the second highest number of households reporting tsetse and tick problems. Although small, de-worming of livestock was moderately practiced. Mafia was the only district in the region using draft animals to cultivate the land. No fish farming was practiced in any district in Pwani region.

It had a poor access to tarmac roads, tertiary markets, regional capital, secondary schools, primary schools, feeder roads, all weather roads and primary markets compared to other districts but it had a good access to health clinics.

The percentage of households without toilet facility in Mafia district was third highest in the region (16 percent). Though it ranked first in radio ownership, it had the lowest percent (4%) of households owning assets in general and ranked last in wheelbarrows and bicycles. It ranked last in the percentage (3%) of households using mains electricity in the region. The most common source of energy for lighting was the wick lamp but Mafia was the least user of wick lamps and the hurricane lamps. Firewood was used in Mafia for cooking accounting for 4.2% of total households that used firewood in the region. The district had the highest percent (91%) of its households with grass roofs and lowest percent (9%) with iron sheets much below the region's average of 27%. The common source of drinking water in the wet season was from unprotected wells followed by protected wells and uncovered rain-water catchments. It had moderate to low percent of households having two meals per day compared to other districts but among the highest with its households having 3 meals per day. The district had the least percentages of households that neither ate meat nor fish during the week prior to enumeration. Although almost half of the households (47%) within the district never experienced problems with food satisfaction, the district came last compared to other districts as it accounted for 8% of total households that never had such problems in the region.

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TYPE OF AGRICULTURE HOUSEHOLD

2.1 TYPE OF AGRICULTURE HOUSEHOLD: Number of Agricultural Households by type of household and District during 2002/03 Agriculture Year

District	Agriculture, Non Agriculture and Urban Households								
	Rural Households Involved in Agriculture	% of Total Rural Households	Rural Households NOT Involved in Agriculture	% of Total Rural Households	Total Rural Households	% of Total Households	Urban Households	% of Total Households	Total Number of Households (from 2002 Pop. Census)
	Number	%	Number	%	Number	%	Number	%	Number
Bagamoyo	37,290	26	3,342	8	40,632	81	9,727	19	50,359
Kibaha	14,029	10	3,090	18	17,119	56	13,358	44	30,477
Kisarawe	18,637	13	1,014	5	19,651	86	3,298	14	22,949
Mkuranga	34,744	25	3,418	9	38,162	89	4,775	11	42,937
Rufiji	30,906	22	3,718	11	34,624	78	9,718	22	44,342
Mafia	5,924	4	1,599	21	7,523	76	2,332	24	9,855
Total	141,530	100	16,182	10	157,711	78	43,208	22	200,919

2.2 TYPE OF AGRICULTURE HOUSEHOLD: Number of Agriculture Households By Type of Holding and District during 2002/03 Agricultural Year

District	Type of Agriculture Household						Total Number of Agriculture Households	Total Number of Households Growing Crops	Total Number of Households Rearing Livestock
	Crops Only		Livestock Only		Crops & Livestock				
	Number of Households	%	Number of Households	%	Number of Households	%			
Bagamoyo	31,426	24	1,384	66	4,479	44	37,290	35,905	5,864
Kibaha	12,976	10	339	16	714	7	14,029	13,689	1,053
Kisarawe	17,645	14	47	2	945	9	18,637	18,590	992
Mkuranga	34,251	26	0	0	493	5	34,744	34,744	493
Rufiji	28,997	22	221	11	1,688	17	30,906	30,685	1,909
Mafia	4,055	3	94	5	1,775	18	5,924	5,830	1,869
Total	129,349	100	2,086	100	10,094	100	141,530	139,444	12,180

NUMBER OF AGRICULTURE HOUSEHOLDS

3.0: HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Households and Average Household Size By Sex of the Head of Household and District, 2002/03 Agricultural Year

District	Male			Female			Total		Average Household Size
	Number	%	Average Household Size	Number	%	Average Household Size	Number	%	
Bagamoyo	29,938	80	5	7,351	20	5	37,290	100	5
Kibaha	11,272	80	5	2,757	20	4	14,029	100	5
Kisarawe	15,622	84	5	3,015	16	4	18,637	100	5
Mkuranga	28,858	83	5	5,886	17	4	34,744	100	5
Rufiji	24,404	79	6	6,502	21	4	30,906	100	5
Mafia	5,013	85	5	911	15	5	5,924	100	5
Total	115,108	81	5	26,422	19	4	141,530	100	5

3.1 The livelihood Activities/Source of Income of the Households Ranked in Order of Importance by

District	Livelihood Activity						
	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Bagamoyo	1	4	5	3	6	7	2
Kibaha	1	3	5	2	6	7	4
Kisarawe	2	1	6	4	5	7	3
Mkuranga	2	1	5	3	6	7	4
Rufiji	1	3	7	4	6	5	2
Mafia	1	2	5	3	7	4	6
Total	1	2	5	4	6	7	3

RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES

3.1a RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: First Most Important

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Bagamoyo	10,286	3,869	1,920	10,439	2,020	974	7,381
Kibaha	7,990	1,607	362	2,559	912	0	600
Kisarawe	6,341	11,791	48	141	42	0	94
Mkuranga	13,455	14,318	79	3,250	824	865	1,500
Rufiji	22,916	3,351	72	1,876	302	1,141	1,093
Mafia	576	2,311	62	1,482	146	1,282	45
Total	61,564	37,247	2,542	19,747	4,246	4,262	10,714

3.1b RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Second Most Important

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Bagamoyo	16,035	5,478	1,786	5,623	1,605	100	6,477
Kibaha	3,379	4,258	656	3,026	703	520	1,473
Kisarawe	6,045	4,286	278	2,850	1,310	47	4,044
Mkuranga	12,456	14,684	1,341	3,474	899	377	1,510
Rufiji	5,372	9,784	446	4,163	2,063	3,147	5,386
Mafia	3,054	1,363	410	464	54	472	22
Total	46,341	39,852	4,919	19,601	6,634	4,663	18,911

3.1c RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Third Most Important

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Bagamoyo	7,087	5,454	3,977	5,943	2,621	301	10,863
Kibaha	1,334	2,370	1,177	2,750	806	62	3,546
Kisarawe	3,135	1,081	837	3,328	2,393	235	6,577
Mkuranga	3,363	2,776	3,352	8,727	3,473	698	8,986
Rufiji	1,612	4,799	2,495	4,280	1,952	1,040	9,654
Mafia	1,431	867	761	887	194	234	168
Total	17,961	17,347	12,598	25,915	11,439	2,570	39,794

3.1d RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Fourth Most Important

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Bagamoyo	1,677	4,845	3,969	3,875	2,596	367	7,647
Kibaha	382	1,000	1,581	1,418	585	155	3,499
Kisarawe	396	309	1,142	2,817	1,412	47	5,557
Mkuranga	2,010	1,270	4,599	5,675	1,561	688	7,090
Rufiji	345	2,236	2,281	1,998	817	878	6,289
Mafia	151	192	1,031	502	82	375	312
Total	4,962	9,853	14,603	16,286	7,054	2,510	30,392

3.1e RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Fifth Most Important

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Bagamoyo	194	1,244	1,363	1,135	556	76	3,189
Kibaha	42	236	899	323	364	0	1,378
Kisarawe	82	0	951	851	504	0	1,199
Mkuranga	1,376	815	2,294	1,568	912	472	2,704
Rufiji	58	945	515	593	538	153	2,166
Mafia	0	0	170	245	24	114	281
Total	1,753	3,240	6,193	4,715	2,898	815	10,916

3.1f RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Sixth Most Important

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Bagamoyo	85	76	403	199	153	0	273
Kibaha	0	81	205	80	82	0	0
Kisarawe	90	0	91	137	95	0	142
Mkuranga	230	124	378	293	365	174	585
Rufiji	0	164	158	152	223	0	53
Mafia	24	0	24	34	0	23	138
Total	428	445	1,258	896	917	197	1,191

3.1g RANK OF IMPORTANCE OF LIVELIHOOD ACTIVITIES: Seventh Most Important

District	Annual Crop Farming	Permanent Crop Farming	Livestock Keeping / Herding	Off Farm Income	Remittances	Fishing / Hunting & Gathering	Tree / Forest Resources
Bagamoyo	0	0	0	0	91	91	0
Kibaha	0	0	0	0	0	0	0
Kisarawe	89	94	0	47	0	0	0
Mkuranga	0	0	45	0	0	79	0
Rufiji	154	0	72	0	83	0	164
Mafia	0	0	0	0	47	0	0
Total	243	94	117	47	221	170	164

HOUSEHOLDS DEMOGRAPHICS

3.2 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members by Sex and Age Group for the 2002/03 Agricultural Year (row %)

Age Group	Sex					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Less than 4	47,013	52	43,497	48	90,510	100
05 - 09	52,490	52	48,993	48	101,482	100
10 - 14	55,708	52	52,064	48	107,773	100
15 - 19	39,173	53	34,204	47	73,377	100
20 - 24	23,194	46	27,766	54	50,960	100
25 - 29	18,140	40	26,783	60	44,922	100
30 - 34	19,508	47	22,010	53	41,517	100
35 - 39	15,160	48	16,610	52	31,770	100
40 - 44	13,083	46	15,543	54	28,626	100
45 - 49	9,749	42	13,627	58	23,376	100
50 - 54	11,982	44	15,070	56	27,052	100
55 - 59	8,666	54	7,378	46	16,045	100
60 - 64	10,091	49	10,473	51	20,564	100
65 - 69	7,821	50	7,814	50	15,635	100
70 - 74	9,403	56	7,419	44	16,822	100
75 - 79	5,827	68	2,753	32	8,580	100
80 - 84	4,757	55	3,850	45	8,608	100
Above 85	2,614	49	2,762	51	5,376	100
Total	354,379	50	358,616	50	712,995	100

3.3 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members by Sex and Age Group for the 2002/03 Agricultural Year (column %)

Age Group	Sex					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Less than 4	47,013	13	43,497	12	90,510	13
05 - 09	52,490	15	48,993	14	101,482	14
10 - 14	55,708	16	52,064	15	107,773	15
15 - 19	39,173	11	34,204	10	73,377	10
20 - 24	23,194	7	27,766	8	50,960	7
25 - 29	18,140	5	26,783	7	44,922	6
30 - 34	19,508	6	22,010	6	41,517	6
35 - 39	15,160	4	16,610	5	31,770	4
40 - 44	13,083	4	15,543	4	28,626	4
45 - 49	9,749	3	13,627	4	23,376	3
50 - 54	11,982	3	15,070	4	27,052	4
55 - 59	8,666	2	7,378	2	16,045	2
60 - 64	10,091	3	10,473	3	20,564	3
65 - 69	7,821	2	7,814	2	15,635	2
70 - 74	9,403	3	7,419	2	16,822	2
75 - 79	5,827	2	2,753	1	8,580	1
80 - 84	4,757	1	3,850	1	8,608	1
Above 85	2,614	1	2,762	1	5,376	1
Total	354,379	100	358,616	100	712,995	100

3.4 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members by Sex and District for the 2002/03 Agricultural Year

District	Sex					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Bagamoyo	93,429	49	98,463	51	191,892	100
Kibaha	32,297	51	31,009	49	63,306	100
Kisarawe	43,332	50	42,783	50	86,115	100
Mkuranga	90,704	51	88,783	49	179,487	100
Rufiji	80,883	49	84,511	51	165,394	100
Mafia	13,734	51	13,068	49	26,802	100
Total	354,379	50	358,616	50	712,995	100

3.5 HOUSEHOLDS DEMOGRAPHICS: Number of Agriculture Household Members 5 Years and Above Who Can Read and Write Languages by Type of Language and District, 2002/03 Agricultural Year

District	Read & Write									
	Swahili		Swahili & English		Any Other Language		Don't Read / Write		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	104,236	63	2,482	1	196	0	59,412	36	166,326	100
Kibaha	38,208	66	2,348	4	0	0	17,132	30	57,687	100
Kisarawe	47,609	64	808	1	0	0	25,930	35	74,347	100
Mkuranga	89,154	57	6,469	4	2,415	2	57,752	37	155,790	100
Rufiji	78,610	54	4,521	3	589	0	60,881	42	144,600	100
Mafia	16,677	70	622	3	155	1	6,281	26	23,734	100
Total	374,493	60	17,250	3	3,354	1	227,388	37	622,485	100

3.6 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members 5 Years and Above by School Attendance and District , 2002/03 Agricultural Year

District	School Attendance							
	Attending School		Completed		Never Attended to School		Total	
	Number	%	Number	%	Number	%	Number	%
Bagamoyo	48,081	29	62,518	38	55,728	34	166,326	100
Kibaha	15,021	26	25,720	45	16,945	29	57,687	100
Kisarawe	22,003	30	28,511	38	23,833	32	74,347	100
Mkuranga	40,476	26	52,431	34	62,883	40	155,790	100
Rufiji	41,279	29	43,206	30	60,116	42	144,600	100
Mafia	6,942	29	10,194	43	6,598	28	23,734	100
Total	173,802	28	222,580	36	226,104	36	622,485	100

3.7 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members by Main Activity and District, 2002/03 Agricultural Year

District	Main Activity									
	Crop/Seaweed Farming		Livestock Keeping / Herding		Livestock Pastoralist		Fishing		Government / Parastatal	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	72,090	43	5,104	3	2,035	1	677	0	1,198	1
Kibaha	26,343	46	796	1	0	0	83	0	1,127	2
Kisarawe	37,353	50	238	0	0	0	94	0	313	0
Mkuranga	76,533	49	144	0	0	0	1,353	1	444	0
Rufiji	72,469	50	218	0	0	0	3,546	2	833	1
Mafia	10,231	43	46	0	0	0	1,788	8	252	1
Total	295,018	47	6,546	1	2,035	0	7,541	1	4,166	1

**cont... HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members
By Main Activity and District, 2002/03 Agricultural Year**

District	Main Activity									
	Private - NGO / Mission / etc		Self Employed (Non Farming) with Employees		Self Employed (Non Farming) without Employees		Unpaid Family Helper (Non Agriculture)		Not Working & Available	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	4,531	3	1,904	1	4,148	2	4,330	3	1,621	1
Kibaha	584	1	1,192	2	2,265	4	1,497	3	1,191	2
Kisarawe	377	1	1,133	2	665	1	2,743	4	690	1
Mkuranga	2,567	2	1,431	1	1,414	1	4,958	3	1,979	1
Rufiji	991	1	1,812	1	1,195	1	1,470	1	1,046	1
Mafia	1,111	5	250	1	72	0	184	1	199	1
Total	10,160	2	7,721	1	9,759	2	15,180	2	6,726	1

**cont... HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members
By Main Activity and District, 2002/03 Agricultural Year**

District	Main Activity											
	Not Working & Unavailable		Housemaker / Housewife		Student		Unable to Work / Too Old / Retired / Sick / Disabled		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	777	0	3,321	2	45,777	28	17,565	11	1,249	1	166,326	100
Kibaha	286	0	1,688	3	14,262	25	4,834	8	1,540	3	57,687	100
Kisarawe	138	0	1,743	2	20,967	28	6,776	9	1,117	2	74,347	100
Mkuranga	1,200	1	2,943	2	37,072	24	21,264	14	2,490	2	155,790	100
Rufiji	771	1	390	0	37,701	26	18,837	13	3,321	2	144,600	100
Mafia	23	0	427	2	6,474	27	2,217	9	463	2	23,734	100
Total	3,195	1	10,512	2	162,253	26	71,492	11	10,181	2	622,485	100

**3.8 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members by
Level of Involvement in Farming Activity and District, 2002/03 Agricultural Year**

District	Involvement in Farming									
	Works Full- time on Farm		Works Part- time on Farm		Rarely Works on Farm		Never Works on Farm		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	35,941	22	10,559	6	71,308	43	48,518	29	166,326	100
Kibaha	25,593	44	4,307	7	10,708	19	17,078	30	57,687	100
Kisarawe	36,142	49	3,309	4	11,801	16	23,096	31	74,347	100
Mkuranga	64,407	41	7,870	5	31,402	20	52,112	33	155,790	100
Rufiji	65,224	45	5,922	4	23,481	16	49,974	35	144,600	100
Mafia	8,120	34	2,163	9	5,986	25	7,465	31	23,734	100
Total	235,426	38	34,130	5	154,686	25	198,242	32	622,485	100

3.9 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members By Level of Formal Education Completed and District, 2002/03 Agricultural Year

District	Education Level									
	Under Standard One		Standard One		Standard Two		Standard Three		Standard Four	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	377	1	476	1	1,463	2	1,931	3	7,785	12
Kibaha	344	1	34	0	303	1	484	2	2,720	11
Kisarawe	96	0	48	0	980	3	1,124	4	2,356	8
Mkuranga	484	1	370	1	1,438	3	1,232	2	5,247	10
Rufiji	616	1	340	1	1,166	3	1,279	3	4,895	11
Mafia	252	2	89	1	57	1	144	1	474	5
Total	2,168	1	1,357	1	5,406	2	6,194	3	23,478	11

cont... HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members By Level of Formal Education Completed and District, 2002/03 Agricultural Year

District	Education Level									
	Standard Seven		Standard Eight		Training After Primary Education		Pre Form One		Form One	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	43,936	70	804	1	0	0	98	0	0	0
Kibaha	18,192	71	441	2	140	1	0	0	82	0
Kisarawe	19,191	67	659	2	189	1	48	0	0	0
Mkuranga	34,886	67	414	1	238	0	217	0	139	0
Rufiji	29,230	68	482	1	204	0	159	0	58	0
Mafia	7,754	76	42	0	11	0	0	0	0	0
Total	153,189	69	2,843	1	781	0	522	0	280	0

cont... HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members by Level of Formal Education Completed and District, 2002/03 Agricultural Year

District	Education Level									
	Form Two		Form Three		Form Four		Form Six		Training After Secondary Education	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	96	0	0	0	767	1	0	0	98	0
Kibaha	212	1	23	0	658	3	76	0	364	1
Kisarawe	319	1	43	0	378	1	143	1	128	0
Mkuranga	302	1	0	0	1,148	2	168	0	0	0
Rufiji	153	0	0	0	475	1	0	0	72	0
Mafia	142	1	0	0	150	1	0	0	23	0
Total	1,224	1	66	0	3,576	2	387	0	685	0

cont... HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Household Members by Level of Formal Education Completed and District, 2002/03 Agricultural Year

District	Education Level					
	University & Other Tertiary Education		Adult Education		Total	
	Number	%	Number	%	Number	%
Bagamoyo	98	0	1,277	2	62,518	100
Kibaha	310	1	713	3	25,720	100
Kisarawe	47	0	1,293	5	28,511	100
Mkuranga	77	0	4,149	8	52,431	100
Rufiji	0	0	1,681	4	43,206	100
Mafia	5	0	634	6	10,194	100
Total	536	0	9,746	4	222,580	100

3.10 HOUSEHOLDS DEMOGRAPHICS: Number of Agricultural Households and Average Household Size by Sex of the Head of Household and District, 2002/03 Agricultural Year

District	Male			Female			Total		Average Household Size
	H/holds	%	Average Household Size	H/holds	%	Average Household Size	H/holds	%	
Bagamoyo	29,938	80	5	7,351	20	5	37,290	100	5
Kibaha	11,272	80	5	2,757	20	4	14,029	100	5
Kisarawe	15,622	84	5	3,015	16	4	18,637	100	5
Mkuranga	28,858	83	5	5,886	17	4	34,744	100	5
Rufiji	24,404	79	6	6,502	21	4	30,906	100	5
Mafia	5,013	85	5	911	15	5	5,924	100	5
Total	115,108	81	5	26,422	19	4	141,530	100	5

3.11 HOUSEHOLD DEMOGRAPHICS: Number of Agricultural Households by Number of Household Members with Off-farm Income Generating Activities and District, 2002/03 Agricultural Year

District	Number of household members with Off farm income							
	One		Two		More than Two		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Bagamoyo	16,813	49	10,042	29	7,389	22	34,244	100
Kibaha	6,736	53	3,577	28	2,291	18	12,604	100
Kisarawe	11,918	65	5,387	29	973	5	18,279	100
Mkuranga	17,474	61	6,935	24	4,025	14	28,434	100
Rufiji	17,284	69	5,134	21	2,551	10	24,970	100
Mafia	2,277	49	1,568	34	819	18	4,663	100
Total	72,502	59	32,643	26	18,048	15	123,194	100

3.12 HOUSEHOLDS DEMOGRAPHICS: Number of Heads of Agricultural Households By Maximum Education Level Attained and District, 2002/03 Agricultural Year

District	Maximum Education Level Attained							
	No Education	Primary Education	Post Primary Education	Secondary Education	Post Secondary Education	University & Equivalent Education	Adult Education	Total
Bagamoyo	13,107	22,403	0	664	98	98	920	37,290
Kibaha	4,738	7,753	99	514	100	310	515	14,029
Kisarawe	6,642	10,424	48	326	86	47	1,063	18,637
Mkuranga	13,848	16,784	157	1,092	0	77	2,786	34,744
Rufiji	13,289	15,814	132	527	72	0	1,072	30,906
Mafia	1,847	3,527	33	192	0	5	321	5,924
Total	53,472	76,706	468	3,315	356	536	6,677	141,530

3.13 HOUSEHOLDS DEMOGRAPHICS: Mean, Median, Mode of Age of Head of Agricultural Household and District

District	Male			Female			Total		
	Mean	Median	Mode	Mean	Median	Mode	Mean	Median	Mode
Bagamoyo	47	44	35	55	56	70	49	46	35
Kibaha	48	45	35	53	53	65	49	48	60
Kisarawe	48	45	30	57	58	80	49	48	60
Mkuranga	50	50	60	53	51	65	51	50	60
Rufiji	49	50	60	49	50	70	49	50	70
Mafia	43	40	30	55	59	60	45	42	30
Total	48	45	35	53	52	70	49	48	60

3.14 Time Series of Male and Female Headed Households

Type of Holding	NSCA 1994/95	EAS 1995/96	EAS 1996/97	IAS 1997/98	DIAS 1998/99	NSCA 2002/03
Male Heads (In Thousands)	175	179	192	204	124	115
Female Heads (In Thousands)	38	51	63	64	28	26
Total (In Thousands)	213	230	255	268	152	141
Male headed (Percentage)	81	81	81	81	82	81
Female headed (Percentage)	19	19	19	19	18	19
Total	100	100	100	100	100	100

3.15 Literacy Rates of Heads of Households by Sex and District

District	Literacy Rate (%)								
	Can Read and Write			Cannot Read and Write			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Bagamoyo	74	31	66	26	69	34	100	100	100
Kibaha	76	41	70	24	59	30	100	100	100
Kisarawe	69	38	64	31	62	36	100	100	100
Mkuranga	74	44	69	26	56	31	100	100	100
Rufiji	66	41	61	34	59	39	100	100	100
Mafia	81	34	74	19	66	26	100	100	100
Total	72	38	66	28	62	34	100	100	100

LAND USE

5.1 LAND USE: Number of Agricultural Households by Type of Land Use and District for the 2002/03 Agricultural Year

Districts	Type of Land Use													Total Number of Households
	Households with Temporary Mono Crops	Households with Temporary Mixed Crops	Households with Permanent Mono Crops	Households with Permanent Mixed Crops	Households with Permanent / Annual Mix	Households with Pasture	Households with Fallow	Households with Natural Bush	Households with Planted Trees	Households Rented to Others	Households Unusable	Households of Uncultivated Usable Land	Area of Land Utilized by Household	
Bagamoyo	25,160	8,428	8,884	6,808	5,543	1,463	4,457	1,182	682	278	1,541	11,620	76,965	37,290
Kibaha	7,249	4,388	2,440	2,160	4,740	151	977	122	150	94	420	3,082	25,062	14,029
Kisarawe	2,116	3,642	4,209	5,041	12,511	188	696	95	330	190	297	2,605	29,041	18,637
Mkuranga	13,116	5,658	10,515	12,684	18,302	144	3,195	498	375	332	1,073	3,463	75,310	34,744
Rufiji	12,005	13,316	9,295	4,535	7,160	0	1,559	293	381	156	956	3,765	51,539	30,906
Mafia	4,485	370	3,109	1,218	358	68	185	0	44	0	138	468	8,386	5,924
Total	64,131	35,802	38,452	32,444	48,613	2,014	11,069	2,190	1,961	1,051	4,425	25,003	266,304	141,530

5.2 LAND USE: Area of Land (Ha) by type of Land Use and District for the 2002/03 Agricultural Year

District	Land use area													Total
	Area under Temporary Mono Crops	Area under Temporary Mixed Crops	Area under Permanent Mono Crops	Area under Permanent Mixed Crops	Area under Permanent / Annual Mix	Area under Pasture	Area under Fallow	Area under Natural Bush	Area under Planted Trees	Area Rented to Others	Area Unusable	Area of Uncultivated Usable Land		
Bagamoyo	30,273	9,251	7,847	9,246	6,976	4,345	7,654	3,356	314	1,060	2,475	17,538	100,335	
Kibaha	7,344	4,020	2,152	2,454	6,701	1,265	1,042	398	48	36	1,593	3,981	31,034	
Kisarawe	1,338	2,727	2,765	6,064	14,850	265	623	497	138	271	243	2,362	32,143	
Mkuranga	8,086	5,092	15,777	19,046	23,195	40	3,665	726	36	373	2,428	4,632	83,096	
Rufiji	9,719	12,254	9,153	5,044	13,511		1,635	341	145	78	901	4,904	57,686	
Mafia	2,709	222	3,348	1,583	300	16	169		41		61	253	8,701	
Total	59,468	33,566	41,042	43,438	65,532	5,932	14,787	5,319	722	1,818	7,702	33,671	312,996	
%	19.0	10.7	13.1	13.9	20.9	1.9	4.7	1.7	0.2	0.6	2.5	10.8	100.0	

5.3: Number of Agricultural Households by Whether All Land Available to the Household Was Used and District, 2002/03 Agricultural Year

District	Was all Land Available to the Hh Used During 2002/03?					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Bagamoyo	17,842	50	18,063	50	35,905	100
Kibaha	8,352	61	5,337	39	13,689	100
Kisarawe	15,486	83	3,104	17	18,590	100
Mkuranga	24,276	70	10,468	30	34,744	100
Rufiji	22,569	74	8,115	26	30,685	100
Mafia	3,885	67	1,945	33	5,830	100
Total	92,412	66	47,032	34	139,444	100

5.4: Number of Agricultural Households by Whether they Consider Having Sufficient Land for the Household and District, 2002/03 Agricultural Year

District	Do you Consider that you Have Sufficient Land for the Hh?					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Bagamoyo	24,616	69	11,289	31	35,905	100
Kibaha	8,621	63	5,069	37	13,689	100
Kisarawe	13,261	71	5,329	29	18,590	100
Mkuranga	22,621	65	12,123	35	34,744	100
Rufiji	16,704	54	13,981	46	30,685	100
Mafia	3,035	52	2,795	48	5,830	100
Total	88,856	64	50,587	36	139,444	100

5.5: Number of Agricultural Households by Whether Female Members of the Household Own or Have Customary Right to Land and District, 2002/03 Agricultural Year

District	Do any Female Members of the Hh own or have Customary Right for Land?					
	Yes		No		Total	
	Number	Percent	Number	Percent	Number	Percent
Bagamoyo	13,652	38	22,253	62	35,905	100
Kibaha	2,288	17	11,401	83	13,689	100
Kisarawe	4,816	26	13,774	74	18,590	100
Mkuranga	9,060	26	25,684	74	34,744	100
Rufiji	4,725	15	25,959	85	30,685	100
Mafia	2,259	39	3,571	61	5,830	100
Total	36,799	26	102,644	74	139,444	100

**TOTAL ANNUAL CROP & VEGETABLES PRODUCTION
WET & DRY SEASONS**

7.1 & 7.2a TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Area Planted (ha) by Season and District.

District	Dry Season		Wet Season		Total Area Planted (Hectare)	% Area Planted in Dry Season
	Number of households	Planted area (hectare)	Number of Households	Planted Area (hectare)		
Bagamoyo	21,024	16,701	32,684	44,062	60,763	27.48
Kibaha	10,492	9,378	9,019	9,905	19,284	48.63
Kisarawe	13,913	7,863	6,350	13,056	20,920	37.59
Mkuranga	23,721	14,405	9,342	23,162	37,566	38.34
Rufiji	23,774	18,188	10,080	17,846	36,033	50.47
Mafia	3,298	1,606	2,926	1,499	3,106	51.73
Total	96,222	68,141	70,400	109,531	177,672	38.35

7.1 & 7.2b TOTAL ANNUAL CROPS AND VEGETABLE PRODUCTION: Number of Crop Growing Households Planting Crops by Season and District.

District	Dry Season		Wet Season		Total Number of Crop Growing Households
	Number of households Growing Crops	Number of households NOT Growing Crops	Number of households Growing Crops	Number of households NOT Growing Crops	
Bagamoyo	21,024	16,266	32,684	4,605	35,905
Kibaha	10,492	3,537	9,019	5,010	13,689
Kisarawe	13,913	4,724	6,350	12,287	18,590
Mkuranga	23,721	11,023	9,342	25,402	34,744
Rufiji	23,774	7,132	10,080	20,826	30,685
Mafia	3,298	2,626	2,926	2,999	5,830
Total	96,222	45,307	70,400	71,129	139,444

7.1 and 7.2c TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Area Planted (ha) and Quantity Harvested by Season and Crop for the 2002/03 Agriculture Year, Pwani Region

Crop	Dry season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity harvested (tons)	Yield (Kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (Kg/ha)
Maize	38,019	11,561	304	32,300	11,430	354	70,319	22,991	327
Paddy	9,937	2,305	232	18,574	4,756	256	28,511	7,062	248
Sorghum	798	425	533	3,675	855	233	4,473	1,280	286
Bulrush Millet	41	2	50	0	0	0	41	2	0
Finger Millet	30	18	618	71	4	59	101	23	224
Wheat	0	0	0	0	0	0	0	0	0
Barley	114	0	0	0	0	0	114	0	0
CEREALS	48,940	14,312		54,620	17,046		103,560	31,358	
Cassava	4,970	4,837	973	44,301	66,353	1,498	49,270	71,190	1,445
Sweet Potatoe	521	637	1,223	1,275	771	605	1,796	1,408	784
Irish Potatoes	0	0	0	24	41	1,688	24	41	1,688
Yams	5	22	4,199	62	0	0	67	22	323
Cocoyam	0	0	0	0	0	0	0	0	0
ROOTS & TU	5,496	5,496		45,662	67,165		51,158	72,661	
Mung Beans	16	0	0	0	0	0	16	0	0
Beans	18	3	171	0	0	0	18	3	0
Cowpeas	11,056	1,681	152	5,167	527	102	16,223	2,208	136
Green Gram	920	59	64	345	25	73	1,265	84	67
Pigeon Peas	6	0	0	0	0	0	6	0	0
Chick Peas	10	2	247	0	0	0	10	2	0
Bambaranuts	15	1	89	0	0	0	15	1	0
Field Peas	0	0	0	0	0	0	0	0	0
PULSES	12,039	1,747		5,513	552	100	17,552	2,299	
Sunflower	0	0	0	21	10	449	21	10	449
Simsim	166	18	109	2,386	312	131	2,552	330	129
Groundnuts	202	95	470	140	13	92	342	108	316
Soya Beans	0	0	0	5	0	0	5	0	0
Castor Seed	0	0	0	0	0	0	0	0	0
OIL SEEDS &	368	113		2,552	335	131	2,920	448	
Okra	98	35	353	28	73	2,585	126	107	852
Radish	0	0	0	101	0	0	101	0	0
Turmeric	0	0	0	0	0	0	0	0	0
Bitter Aubergin	0	0	0	0	0	0	0	0	0
Garlic	0	0	0	0	0	0	0	0	0
Onions	22	15	697	2	4	1,976	24	19	800
Ginger	0	0	0	0	0	0	0	0	0
Cabbage	13	0	0	13	19	1,506	26	19	729
Tomatoes	404	840	2,077	491	1,104	2,250	895	1,944	2,172
Spinnach	24	2	93	6	4	726	30	6	218
Carrot	0	0	0	0	0	0	0	0	0
Chillies	6	1	222	0	0	0	6	1	0
Amaranths	84	79	943	36	35	979	120	115	954
Pumpkins	155	80	517	109	145	1,328	264	225	853
Cucumber	57	45	794	29	39	1,378	86	85	989
Egg Plant	0	0	0	12	37	3,073	12	37	3,073
Water Mellon	183	921	5,027	114	203	1,785	297	1,124	3,787
Cauliflower	0	0	0	0	0	0	0	0	0
FRUITS & VE	1,046	2,019		940	1,664		1,987	3,682	
Seaweed	171	180	1,055	183	188	1,024	354	368	1,039
Cotton	82	0	0	59	117	1,976	141	117	832
Tobacco	0	0	0	0	0	0	0	0	0
Pyrethrum	0	0	0	0	0	0	0	0	0
Jute	0	0	0	0	0	0	0	0	0
CASH CROPS	252	180		243	305		495	485	
Total	68,141			109,531			177,672		

*The total area planted include the sum of the planted area for both Long and Short Season and it is an overestimation of the actual area due to being produced on the same land during the two seasons. Previous surveys have used the Long Season to estimate physical land area under production to different crops.

7.1 & 7.2d TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Agriculture Households by Area Planted (ha) and crop for the Agriculture Year 2002/03 - Wet and Dry Seasons, Pwani Region

Crop	Dry season		Wet Season		Total Area Planted Short & Long Season	% Area Planted in Dry Season
	Number of Households	Area Planted (ha)	Number of Households	Area Planted (ha)		
Maize	71,919	38,019	40,193	32,300	70,319	54
Paddy	19,136	9,937	30,542	18,574	28,511	35
Sorghum	2,443	798	6,090	3,675	4,473	18
Bulrush Millet	111	41	0	0	41	100
Finger Millet	74	30	84	71	101	30
Wheat	0	0	0	0	0	0
Barley	130	114	0	0	114	100
CEREALS	93,813	48,940	76,909	54,620	103,560	47.3
Cassava	8,988	4,970	65,461	44,301	49,270	10
Sweet	1,835	521	3,036	1,275	1,796	29
Irish Potatoes	0	0	130	24	24	0
Yams	67	5	98	62	67	8
Cocoyam	0	0	0	0	0	0
ROOTS &	10,891	5,496	68,725	45,662	51,158	10.7
Mung Beans	39	16	0	0	16	100
Beans	204	18	0	0	18	100
Cowpeas	39,454	11,056	14,618	5,167	16,223	68
Green Gram	3,406	920	951	345	1,265	73
Pigeon Peas	27	6	0	0	6	100
Chick Peas	82	10	0	0	10	100
Bambaranuts	72	15	0	0	15	100
Field Peas	0	0	0	0	0	0
PULSES	43,283	12,039	15,570	5,513	17,552	69
Sunflower	0	0	96	21	21	0
Simsim	574	166	4,894	2,386	2,552	6
Groundnuts	1,048	202	508	140	342	59
Soya Beans	0	0	47	5	5	0
Castor Seed	0	0	0	0	0	0
OIL SEEDS	1,622	368	5,546	2,552	2,920	13
Okra	232	98	119	28	126	78
Radish	0	0	84	101	101	0
Turmeric	0	0	0	0	0	0
Bitter	0	0	0	0	0	0
Garlic	0	0	0	0	0	0
Onions	131	22	47	2	24	92
Ginger	0	0	0	0	0	0
Cabbage	47	13	192	13	26	52
Tomatoes	1,815	404	1,486	491	895	45
Spinnach	150	24	145	6	30	80
Carrot	0	0	0	0	0	0
Chillies	73	6	0	0	6	100
Amaranths	729	84	263	36	120	70
Pumpkins	1,007	155	436	109	264	59
Cucumber	237	57	65	29	86	67
Egg Plant	0	0	62	12	12	0
Water Mellon	794	183	246	114	297	62
Cauliflower	0	0	0	0	0	0
FRUITS &	5,215	1,046	3,145	940	1,987	53
Seaweed	316	171	316	183	354	48
Cotton	102	82	195	59	141	58
Tobacco	0	0	0	0	0	0
Pyrethrum	0	0	0	0	0	0
Jute	0	0	0	0	0	0
CASH	418	252	511	243	495	51.0
Total	155,243	68,141	170,406	109,531	177,672	38.4

7.1 & 7.2e TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area (ha) By Means of Soil Preparation and District Wet & Dry Season, Pwani Region

District	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
	Number of Households	Planted Area (ha)	Number of Households	Planted Area (ha)	Number of Households	Planted Area (ha)	Number of Households	Planted Area (ha)
Bagamoyo	2,162	1,657	1,209	1,042	50,338	52,004	35,905	54,703
Kibaha	564	1,069	664	948	18,284	17,001	13,689	19,018
Kisarawe	43	6	648	360	19,572	11,227	18,590	11,593
Mkuranga	161	110	954	317	31,948	19,810	34,744	20,238
Rufiji	248	122	1,295	1,237	32,311	25,663	30,685	27,022
Mafia	0	0	188	64	6,035	2,984	5,830	3,048
Total	3,177	2,964	4,958	3,969	158,488	128,690	139,444	135,622

7.1 & 7.2f TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fertilizer Use and District for the 2002/03 Agriculture Year - Wet & Dry Season, Pwani Region

District	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)	Number of Household	Planted Area (ha)
Bagamoyo	939	861	3,990	5,409	747	561	30,228	53,931	35,905	60,763
Kibaha	1,104	1,099	462	362	279	203	11,844	17,620	13,689	19,284
Kisarawe	425	337	1,275	706	138	68	16,752	19,808	18,590	20,920
Mkuranga	2,085	1,732	2,483	1,324	1,152	565	29,024	33,945	34,744	37,566
Rufiji	303	96	328	131	76	31	29,978	35,775	30,685	36,033
Mafia	1,150	543	299	107	267	148	4,114	2,308	5,830	3,106
Total	6,007	4,669	8,837	8,040	2,659	1,575	121,940	163,388	139,444	177,672

7.1 & 7.2g TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Irrigation Use and District during Wet & Dry Season, 2002/03 Agriculture Year

District	Irrigation Use						% of Area Planted Under Irrigation
	Households Using Irrigation		Households Not Using Irrigation		Total		
	Number of Household	Planted Area (Ha)	Number of Household	Planted Area (Ha)	Number of Household	Planted Area (Ha)	
Bagamoyo	457	447	53,251	54,256	35,905	60,763	0.7
Kibaha	847	718	18,664	18,300	13,689	19,284	3.7
Kisarawe	319	234	19,944	11,358	18,590	20,920	1.1
Mkuranga	1,419	1,006	31,644	19,232	34,744	37,566	2.7
Rufiji	631	699	33,222	26,323	30,685	36,033	1.9
Mafia	142	60	6,082	2,989	5,830	3,106	1.9
Total	3,815	3,164	162,808	132,458	139,444	177,672	1.8

7.1 & 7.2h TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Insecticide Use						% of Planted Area Using Insecticides
	Households Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Bagamoyo	1,587	1,534	34,318	59,229	35,905	60,763	2.5
Kibaha	1,433	1,028	12,256	18,256	13,689	19,284	5.3
Kisarawe	609	456	17,981	20,464	18,590	20,920	2.2
Mkuranga	1,477	1,177	33,267	36,389	34,744	37,566	3.1
Rufiji	946	1,067	29,739	34,966	30,685	36,033	3.0
Mafia	15	3	5,815	3,103	5,830	3,106	0.1
Total	6,067	5,265	133,376	172,407	139,444	177,672	3.0

7.1 & 7.2i TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicide Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Herbicide Use						% of Planted Area Using Herbicides
	Households Using Herbicide		Households Not Using Herbicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Bagamoyo	650	769	35,256	53,934	35,905	60,763	1.3
Kibaha	184	185	13,505	18,833	13,689	19,284	1.0
Kisarawe	228	90	18,362	11,503	18,590	20,920	0.4
Mkuranga	820	706	33,924	19,532	34,744	37,566	1.9
Rufiji	1,635	898	29,050	26,125	30,685	36,033	2.5
Mafia	101	43	5,729	3,006	5,830	3,106	1.4
Total	3,617	2,691	135,826	132,931	139,444	177,672	1.5
%	2.6	1.5	97.4	74.8	100	100	

7.1 & 7.2j TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicides Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Fungicide Use						% of Planted Area Using Fungicides
	Households Using Fungicide		Households Not Using Fungicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Bagamoyo	1,033	1,003	52,675	53,700	35,905	60,763	1.7
Kibaha	893	581	18,619	18,437	13,689	19,284	3.0
Kisarawe	422	233	19,841	11,360	18,590	20,920	1.1
Mkuranga	1,769	1,332	31,294	18,906	34,744	37,566	3.5
Rufiji	845	719	33,008	26,303	30,685	36,033	2.0
Mafia	59	16	6,165	3,032	5,830	3,106	0.5
Total	5,021	3,884	161,602	131,738	139,444	177,672	2.2

7.1 & 7.2k TOTAL ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Improved Seed Use and District for the 2002/03 Agriculture Year - Wet & Dry Season.

District	Improved Seed Use						% of Planted Area Using Improved Seeds
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Bagamoyo	9,643	8,409	44,065	46,294	35,905	54,703	15.4
Kibaha	5,165	5,123	14,347	13,895	13,689	19,018	26.9
Kisarawe	5,016	2,694	15,247	8,899	18,590	11,593	23.2
Mkuranga	6,412	3,359	26,651	16,879	34,744	20,238	16.6
Rufiji	1,880	1,218	31,973	25,804	30,685	27,022	4.5
Mafia	772	422	5,451	2,627	5,830	3,048	13.8
Total	28,888	21,224	137,734	114,398	139,444	135,622	15.6

**ANNUAL CROP & VEGETABLES PRODUCTION
LONG RAINY SEASON**

7.2a ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Households and Planted Area by Means Used for Soil Preparation and District - LONG RAINY SEASON, Pwani Region.

District	Soil Preparation							
	Mostly Tractor Ploughing		Mostly Oxen Ploughing		Mostly Hand Cultivation		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Bagamoyo	1,335	1,186	778	879	30,572	35,938	32,684	44,062
Kibaha	340	696	399	617	8,281	8,326	9,019	9,905
Kisarawe	0		138	62	6,212	3,667	6,350	13,056
Mkuranga	82	33	557	193	8,703	5,607	9,342	23,162
Rufiji	0		250	432	9,830	8,403	10,080	17,846
Mafia	0		105	33	2,821	1,409	2,926	1,499
Total	1,756	1,915	2,226	2,216	66,418	63,350	70,400	109,531
%	2	2	3	2	94	58	100	100

7.2b ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Fertilizer Use and District during 2002/03 Agriculture Year - LONG RAINY SEASON, Pwani Region

	Fertilizer Use									
	Mostly Farm Yard Manure		Mostly Compost		Mostly Inorganic Fertilizer		No Fertilizer Applied		Total	
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area
Bagamoyo	560	624	2,403	4,105	451	417	29,270	32,856	32,684	44,062
Kibaha	559	670	265	204	106	42	8,090	8,723	9,019	9,905
Kisarawe	95	102	474	263	0		5,781	3,364	6,350	13,056
Mkuranga	385	425	834	439	158	98	7,965	4,872	9,342	23,162
Rufiji	0		72	52	0		10,008	8,782	10,080	17,846
Mafia	541	260	230	84	9	5	2,145	1,093	2,926	1,499
Total	2,141	2,081	4,277	5,147	724	562	63,258	59,691	70,400	109,531

7.2c ANNUAL CROP AND VEGETABLE PRODUCTION: Total Number of Crop Growing Households and Planted Area by Irrigation Use and District during LONG RAINY SEASON, 2002/03 Agriculture Year, Pwani Region

District	Irrigation Use						% of Planted Area Under Irrigation in Dry Season
	Households Using Irrigation		Households Not Using Irrigation		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Bagamoyo	276	382	32,408	37,620	32,684	44,062	0.87
Kibaha	527	368	8,492	9,272	9,019	9,905	3.71
Kisarawe	87	63	6,264	3,667	6,350	13,056	0.48
Mkuranga	229	288	9,113	5,545	9,342	23,162	1.25
Rufiji	238	406	9,842	8,428	10,080	17,846	2.28
Mafia	64	29	2,862	1,413	2,926	1,499	1.94
Total	1,420	1,536	68,981	65,945	70,400	109,531	1.40
%	2	1	98	60	100	100	

7.2d ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Insecticide Use and District for the 2002/03 Agriculture Year - LONG RAINY SEASON.

District	Insecticide Use						% of Planted Area Using Insecticides
	Households Using Insecticides		Households Not Using Insecticides		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Bagamoyo	819	913	31,865	37,089	32,684	44,062	2.07
Kibaha	786	600	8,233	9,040	9,019	9,905	6.06
Kisarawe	186	128	6,164	3,602	6,350	13,056	0.98
Mkuranga	224	253	9,118	5,581	9,342	23,162	1.09
Rufiji	230	288	9,849	8,546	10,080	17,846	1.62
Mafia	15	3	2,910	1,439	2,926	1,499	0.21
Total	2,261	2,185	68,140	65,296	70,400	109,531	2.00

7.2e ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Herbicide Use and District for the 2002/03 Agriculture Year - LONG RAINY SEASON.

District	Herbicide Use						% of Planted Area Using Herbicides
	Households Using Herbicide		Households Not Using Herbicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Bagamoyo	365	609	32,319	37,393	32,684	44,062	1.38
Kibaha	116	104	8,904	9,536	9,019	9,905	1.05
Kisarawe	133	32	6,217	3,698	6,350	13,056	0.24
Mkuranga	85	69	9,257	5,765	9,342	23,162	0.30
Rufiji	602	361	9,478	8,474	10,080	17,846	2.02
Mafia	40	23	2,886	1,419	2,926	1,499	1.52
Total	1,339	1,197	69,061	66,284	70,400	109,531	1.09
%	1.9	1.1	98.1	60.5	100.0	100.0	

7.2f ANNUAL CROP & VEGETABLE PRODUCTION: Total Number of Agriculture Households and Planted Area by Fungicide Use and District for the 2002/03 Agriculture Year - LONG RAINY SEASON

District	Fungicide Use						% of Planted Area Using Fungicides
	Households Using Fungicide		Households Not Using Fungicide		Total		
	Number of Households	Planted Area	Number of Households	Planted Area	Number of Households	Planted Area	
Bagamoyo	733	763	31,951	37,240	32,684	44,062	1.73
Kibaha	496	370	8,524	9,269	9,019	9,905	3.74
Kisarawe	138	44	6,212	3,685	6,350	13,056	0.34
Mkuranga	393	302	8,949	5,532	9,342	23,162	1.30
Rufiji	75	31	10,004	8,804	10,080	17,846	0.17
Mafia	37	12	2,889	1,430	2,926	1,499	0.78
Total	1,872	1,522	68,528	65,960	70,400	109,531	1.39

7.2g ANNUAL CROP AND VEGETABLE PRODUCTION: Number of Crop Growing Households and Planted Area By Improved Seed Use and District During 2002/03 Crop Year - LONG RAINY SEASON

District	Improved Seed Use						% of planted area under irrigation in dry season
	Households Using Improved Seed		Households Not Using Improved Seed		Total		
	Number of Household	Planted Area	Number of Household	Planted Area	Number of Household	Planted Area	
Bagamoyo	5,765	6,238	26,919	31,764	32,684	38,002	16.42
Kibaha	2,483	2,393	6,537	7,246	9,019	9,640	24.83
Kisarawe	1,357	903	4,993	2,827	6,350	3,730	24.21
Mkuranga	1,720	1,063	7,621	4,771	9,342	5,833	18.22
Rufiji	559	339	9,520	8,496	10,080	8,835	3.84
Mafia	362	207	2,563	1,235	2,926	1,442	14.37
Total	12,246	11,144	58,155	56,338	70,400	67,481	16.51
%	17	17	83	83	100	100	

7.1 and 7.2c TOTAL ANNUAL CROP AND VEGETABLE PRODUCTION: Area Planted (ha) and Quantity Harvested by Season and Crop for the 2002/03 Agriculture Year, Pwani Region

Crop	Dry season			Wet Season			Total		
	Area Planted (ha)	Quantity Harvested (tons)	Yield (kg/ha)	Area Planted (ha)	Quantity harvested (tons)	Yield (Kg/ha)	Area Planted (ha)	Quantity Harvested (tons)	Yield (Kg/ha)
Maize	38019	11561	304	32,300	11,430	354	70,319	22,991	327
Paddy	9937	2305	232	18,574	4,756	256	28,511	7,062	248
Sorghum	798	425	533	3,675	855	233	4,473	1,280	286
Bulrush Millet	41	2	50	0	0	0	41	2	0
Finger Millet	30	18	618	71	4	59	101	23	224
Wheat	0	0	0	0	0	0	0	0	0
Barley	114	0	0	0	0	0	114	0	0
CEREALS	48940	14312		54,620	17,046		103,560	31,358	
Cassava	4970	4837	973	44,301	66,353	1498	49,270	71,190	1445
Sweet Potatoes	521	637	1223	1,275	771	605	1,796	1,408	784
Irish Potatoes	0	0	0	24	41	1688	24	41	1688
Yams	5	22	4199	62	0	0	67	22	323
Cocoyam	0	0	0	0	0	0	0	0	0
ROOTS & TUBERS	5496	5496		45,662	67,165		51,158	72,661	
Mung Beans	16	0	0	0	0	0	16	0	0
Beans	18	3	171	0	0	0	18	3	0
Cowpeas	11056	1681	152	5,167	527	102	16,223	2,208	136
Green Gram	920	59	64	345	25	73	1,265	84	67
Pigeon Peas	6	0	0	0	0	0	6	0	0
Chick Peas	10	2	247	0	0	0	10	2	0
Bambaranuts	15	1	89	0	0	0	15	1	0
Field Peas	0	0	0	0	0	0	0	0	0
PULSES	12039	1747		5,513	552	100	17,552	2,299	
Sunflower	0	0	0	21	10	449	21	10	449
Simsim	166	18	109	2,386	312	131	2,552	330	129
Groundnuts	202	95	470	140	13	92	342	108	316
Soya Beans	0	0	0	5	0	0	5	0	0
Castor Seed	0	0	0	0	0	0	0	0	0
OIL SEEDS & OIL NUTS	368	113		2,552	335	131	2,920	448	
Okra	98	35	353	28	73	2585	126	107	852
Radish	0	0	0	101	0	0	101	0	0
Turmeric	0	0	0	0	0	0	0	0	0
Bitter Aubergine	0	0	0	0	0	0	0	0	0
Garlic	0	0	0	0	0	0	0	0	0
Onions	22	15	697	2	4	1976	24	19	800
Ginger	0	0	0	0	0	0	0	0	0
Cabbage	13	0	0	13	19	1506	26	19	729
Tomatoes	404	840	2077	491	1,104	2250	895	1,944	2172
Spinnach	24	2	93	6	4	726	30	6	218
Carrot	0	0	0	0	0	0	0	0	0
Chillies	6	1	222	0	0	0	6	1	0
Amaranths	84	79	943	36	35	979	120	115	954
Pumpkins	155	80	517	109	145	1328	264	225	853
Cucumber	57	45	794	29	39	1378	86	85	989
Egg Plant	0	0	0	12	37	3073	12	37	3073
Water Mellon	183	921	5027	114	203	1785	297	1,124	3787
Cauliflower	0	0	0	0	0	0	0	0	0
FRUITS & VEGETABLES	1046	2019		940	1,664		1,987	3,682	
Seaweed	171	180	1055	183	188	1024	354	368	1039
Cotton	82	0	0	59	117	1976	141	117	832
Tobacco	0	0	0	0	0	0	0	0	0
Pyrethrum	0	0	0	0	0	0	0	0	0
Jute	0	0	0	0	0	0	0	0	0
CASH CROPS	252	180		243	305		495	485	
Total	68,141			109,531			177,672		

*The total area planted include the sum of the planted area for both Wet and Dry Season and it is an overestimation of the actual area due to being produced on the same land during the two seasons. Previous surveys have used the Long/Wet Season to estimat

Table 7.2.1: Number of Agricultural Households, Area Planted (ha) and Quantity of Maize Harvested (tons) by Season and District;2002/03 Agricultural Year

Maize											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	18,053	12,166	3,254	0.268	26,539	25,311	10,412	0.411	37,477	13,667	0.365
Kibaha	5,650	2,876	434	0.151	3,534	2,338	165	0.070	5,215	598	0.115
Kisarawe	12,570	4,722	1,751	0.371	4,438	1,750	309	0.176	6,472	2,059	0.318
Mkuranga	15,278	7,089	1,395	0.197	2,676	1,324	120	0.091	8,413	1,515	0.180
Rufiji	20,114	11,098	4,701	0.424	2,862	1,555	408	0.263	12,653	5,110	0.404
Mafia	253	68	26	0.380	143	21	16	0.744	90	42	0.466
Total	71,919	38,019	11,561	0.304	40,193	32,300	11,430	0.354	70,319	22,991	0.327

Table 7.2.2: Number of Agricultural Households, Area Planted (ha) and Quantity of Paddy Harvested (tons) by Season and District;2002/03 Agricultural Year

Paddy											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	8,839	5,226	431	0.083	5,226	431	0.083
Kibaha	1,294	644	98	0.152	4,210	3,150	353	0.112	3,794	450	0.119
Kisarawe	1,717	747	485	0.649	1,858	960	138	0.144	1,707	623	0.365
Mkuranga	5,678	2,815	417	0.148	5,906	3,022	605	0.200	5,837	1,022	0.175
Rufiji	8,784	5,015	1,028	0.205	8,126	5,501	2,853	0.519	10,516	3,881	0.369
Mafia	1,664	716	278	0.389	1,603	715	376	0.526	1,431	654	0.457
Total	19,136	9,937	2,305	0.232	30,542	18,574	4,756	0.000	28,511	7,062	0.248

Table 7.2.3: Number of Agricultural Households, Area Planted (ha) and Quantity of Sorghum Harvested (tons) by Season and District;2002/03 Agricultural Year

Sorghum											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	296	18	15	0.832	3,326	1,869	248	0.133	1,887	263	0.140
Kibaha	163	47	2	0.045	1,194	915	379	0.414	962	381	0.396
Kisarawe	460	103	25	0.241	354	159	0	0.001	263	25	0.095
Mkuranga	399	227	10	0.045	82	20	5	0.247	247	15	0.061
Rufiji	1,125	403	373	0.926	1,134	711	223	0.314	1,114	596	0.535
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	2,443	798	425	0.533	6,090	3,675	855	0.233	4,473	1,280	0.286

Table 7.2.4: Number of Agricultural Households, Area Planted (ha) and Quantity of Barley Harvested (tons) by Season and District;2002/03 Agricultural Year

Barley											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	130	114	0	0.000	0	0	0	0.000	114	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	130	114	0	0.000	0	0	0	0.000	114	0	0.000

Table 7.2.5: Number of Agricultural Households, Area Planted (ha) and Quantity of Finger millet Harvested (tons) by Season and District;2002/03 Agricultural Year

Finger millet											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	74	30	18	0.618	84	71	5	0.068	101	23	0.230
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	74	30	18	0.618	84	71	4	0.059	101	23	0.224

Table 7.2.6: Number of Agricultural Households, Area Planted (ha) and Quantity of Bulrush millet Harvested (tons) by Season and District;2002/03 Agricultural Year

Bulrush millet											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	34	28	0	0.006	0	0	0	0.000	28	0	0.006
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	76	14	2	0.140	0	0	0	0.000	14	2	0.140
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	111	41	2	0.050	0	0	0	0.000	41	2	0.050

Table 7.2.7: Number of Agricultural Households, Area Planted (ha) and Quantity of Cassava Harvested (tons) by Season and District;2002/03 Agricultural Year

Cassava											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	261	120	0	0.000	11,715	6,079	8,476	1.394	6,199	8,476	1.367
Kibaha	5,229	3,423	3,318	0.969	3,332	1,892	1,353	0.715	5,314	4,671	0.879
Kisarawe	142	48	14	0.296	14,779	9,362	22,400	2.393	9,411	22,414	2.382
Mkuranga	549	212	35	0.164	23,495	17,358	16,747	0.965	17,569	16,782	0.955
Rufiji	1,135	569	759	1.334	10,921	9,192	16,893	1.838	9,761	17,652	1.808
Mafia	1,672	597	711	1.190	1,219	418	484	1.158	1,015	1,195	1.177
Total	8,988	4,970	4,837	0.973	65,461	44,301	66,353	1.498	49,270	71,190	1.445

Table 7.2.8: Number of Agricultural Households, Area Planted (ha) and Quantity of Sweet potatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Sweet potatoes											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	98	16	0	0.000	715	414	171	0.412	430	171	0.397
Kibaha	330	106	48	0.448	695	447	36	0.081	553	84	0.152
Kisarawe	323	102	206	2.021	313	31	42	1.377	133	248	1.872
Mkuranga	792	250	281	1.127	722	238	221	0.927	488	502	1.029
Rufiji	161	17	13	0.746	74	30	4	0.124	47	17	0.351
Mafia	132	30	89	2.967	516	115	297	2.585	145	386	2.664
Total	1,835	521	637	1.223	3,036	1,275	771	0.605	1,796	1,408	0.784

Table 7.2.9: Number of Agricultural Households, Area Planted (ha) and Quantity of Yams Harvested (tons) by Season and District;2002/03 Agricultural Year

Yams											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	98	62	0	0.000	62	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	67	5	22	4.199	0	0	0	0.000	5	22	4.199
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	67	5	22	4.199	98	62	0	0.000	67	22	0.323

Table 7.2.10: Number of Agricultural Households, Area Planted (ha) and Quantity of Irish potatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Irish potatoes											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	0	0	0	0.000	85	17	10	0.608	17	10	0.608
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	46	7	30	4.347	7	30	4.347
Total	0	0	0	0.000	130	24	41	1.688	24	41	1.688

Table 7.2.11: Number of Agricultural Households, Area Planted (ha) and Quantity of Cow peas Harvested (tons) by Season and District;2002/03 Agricultural Year

Cow peas											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	11,834	3,846	483	0.126	7,311	2,776	267	0.096	6,622	750	0.113
Kibaha	5,785	1,884	201	0.107	2,256	664	25	0.037	2,548	226	0.089
Kisarawe	8,668	1,885	277	0.147	2,845	671	63	0.094	2,557	340	0.133
Mkuranga	10,467	2,713	434	0.160	1,815	866	41	0.048	3,580	475	0.133
Rufiji	2,675	727	287	0.394	325	177	129	0.728	904	416	0.460
Mafia	23	0	0	0.000	65	12	2	0.157	12	2	0.157
Total	39,454	11,056	1,681	0.152	14,618	5,167	527	0.102	16,223	2,208	0.136

Table 7.2.12: Number of Agricultural Households, Area Planted (ha) and Quantity of Green gram Harvested (tons) by Season and District;2002/03 Agricultural Year

Green gram											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	1,051	432	12	0.027	647	277	11	0.040	708	23	0.032
Kibaha	449	118	3	0.028	115	30	4	0.127	149	7	0.048
Kisarawe	142	27	3	0.095	190	38	10	0.270	65	13	0.197
Mkuranga	1,764	343	41	0.121	0	0	0	0.000	343	41	0.121
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	3,406	920	59	0.064	951	345	25	0.073	1,265	84	0.067

Table 7.2.13: Number of Agricultural Households, Area Planted (ha) and Quantity of Beans Harvested (tons) by Season and District;2002/03 Agricultural Year

Beans											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	98	2	1	0.618	0	0	0	0.000	2	1	0.618
Kibaha	59	12	2	0.166	0	0	0	0.000	12	2	0.166
Kisarawe	47	4	0	0.000	0	0	0	0.000	4	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	204	18	3	0.171	0	0	0	0.000	18	3	0.171

Table 7.2.14: Number of Agricultural Households, Area Planted (ha) and Quantity of Mung beans Harvested (tons) by Season and District;2002/03 Agricultural Year

Mung beans											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	39	16	0	0.000	0	0	0	0.000	16	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	39	16	0	0.000	0	0	0	0.000	16	0	0.000

Table 7.2.15: Number of Agricultural Households, Area Planted (ha) and Quantity of Bambaranuts Harvested (tons) by Season and District;2002/03 Agricultural Year

Bambaranuts											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	72	15	1	0.089	0	0	0	0.000	15	1	0.089
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	72	15	1	0.089	0	0	0	0.000	15	1	0.089

Table 7.2.16: Number of Agricultural Households, Area Planted (ha) and Quantity of Chick Peas Harvested (tons) by Season and District;2002/03 Agricultural Year

Chick Peas											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	82	10	2	0.247	0	0	0	0.000	10	2	0.247
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	82	10	2	0.247	0	0	0	0.000	10	2	0.247

Table 7.2.17: Number of Agricultural Households, Area Planted (ha) and Quantity of Pigeon peas Harvested (tons) by Season and District;2002/03 Agricultural Year

Pigeon peas											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	27	6	0	0.000	0	0	0	0.000	6	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	27	6	0	0.000	0	0	0	0.000	6	0	0.000

Table 7.2.18: Number of Agricultural Households, Area Planted (ha) and Quantity of Simsim Harvested (tons) by Season and District;2002/03 Agricultural Year

Simsim											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	3,824	1,824	265	0.145	1,824	265	0.145
Kibaha	0	0	0	0.000	243	81	1	0.010	81	1	0.010
Kisarawe	47	19	2	0.124	0	0	0	0.000	19	2	0.124
Mkuranga	316	86	6	0.066	0	0	0	0.000	86	6	0.066
Rufiji	211	61	10	0.164	828	482	46	0.097	543	57	0.104
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	574	166	18	0.109	4,894	2,386	312	0.131	2,552	330	0.129

Table 7.2.19: Number of Agricultural Households, Area Planted (ha) and Quantity of Groundnuts Harvested (tons) by Season and District;2002/03 Agricultural Year

Groundnuts											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	102	16	20	1.267	100	10	3	0.247	26	23	0.873
Kibaha	210	43	31	0.721	0	0	0	0.000	43	31	0.721
Kisarawe	424	90	18	0.200	137	41	1	0.029	130	19	0.146
Mkuranga	312	54	26	0.483	169	68	7	0.101	122	33	0.269
Rufiji	0	0	0	0.000	80	16	0	0.000	16	0	0.000
Mafia	0	0	0	0.000	23	5	2	0.494	5	2	0.494
Total	1,048	202	95	0.470	508	140	13	0.092	342	108	0.316

Table 7.2.20: Number of Agricultural Households, Area Planted (ha) and Quantity of Sunflower Harvested (tons) by Season and District;2002/03 Agricultural Year

Sunflower											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	96	21	10	0.449	21	10	0.449
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	0	0	0	0.000	96	21	10	0.449	21	10	0.449

Table 7.2.21: Number of Agricultural Households, Area Planted (ha) and Quantity of Soya beans Harvested (tons) by Season and District;2002/03 Agricultural Year

Soya beans											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	47	5	0	0.000	5	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	0	0	0	0.000	47	5	0	0.000	5	0	0.000

Table 7.2.22: Number of Agricultural Households, Area Planted (ha) and Quantity of Tomatoes Harvested (tons) by Season and District;2002/03 Agricultural Year

Tomatoes											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	397	80	112	1.401	80	112	1.401
Kibaha	323	140	315	2.247	788	318	797	2.506	458	1,112	2.427
Kisarawe	238	54	151	2.790	47	10	90	9.426	64	242	3.785
Mkuranga	901	170	285	1.678	166	67	79	1.189	237	364	1.540
Rufiji	242	25	49	1.987	0	0	0	0.000	25	49	1.987
Mafia	110	15	39	2.562	87	16	25	1.533	31	64	2.028
Total	1,815	404	840	2.077	1,486	491	1,104	2.250	895	1,944	2.172

Table 7.2.23: Number of Agricultural Households, Area Planted (ha) and Quantity of Water melon Harvested (tons) by Season and District;2002/03 Agricultural Year

Water melon											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	98	20	112	5.659	20	112	5.659
Kibaha	65	4	0	0.000	41	4	4	0.988	8	4	0.482
Kisarawe	95	17	135	7.770	47	10	20	2.100	27	155	5.750
Mkuranga	634	162	787	4.868	60	80	120	1.497	242	906	3.752
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	794	183	921	5.027	246	114	203	1.785	297	1,124	3.787

Table 7.2.24: Number of Agricultural Households, Area Planted (ha) and Quantity of Pumpkins Harvested (tons) by Season and District;2002/03 Agricultural Year

Pumpkins											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	91	4	0	0.000	87	5	0	0.000	9	0	0.000
Kibaha	219	19	14	0.699	101	11	8	0.774	30	22	0.725
Kisarawe	48	17	0	0.000	0	0	0	0.000	17	0	0.000
Mkuranga	565	94	25	0.262	164	85	12	0.140	179	37	0.205
Rufiji	83	20	42	2.058	83	8	125	14.820	29	167	5.812
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	1,007	155	80	0.517	436	109	145	1.328	264	225	0.853

Table 7.2.25: Number of Agricultural Households, Area Planted (ha) and Quantity of Okra Harvested (tons) by Season and District;2002/03 Agricultural Year

Okra											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	0	0	0	0.000	34	11	0	0.000	11	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	158	23	35	1.499	85	17	73	4.248	40	107	2.671
Rufiji	74	75	0	0.000	0	0	0	0.000	75	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	232	98	35	0.353	119	28	73	2.585	126	107	0.852

Table 7.2.26: Number of Agricultural Households, Area Planted (ha) and Quantity of Amaranths Harvested (tons) by Season and District;2002/03 Agricultural Year

Amaranths											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	98	20	0	0.000	20	0	0.000
Kibaha	31	2	3	1.900	31	5	2	0.380	6	5	0.760
Kisarawe	0	0	0	0.000	95	7	20	3.035	7	20	3.035
Mkuranga	464	55	63	1.146	0	0	0	0.000	55	63	1.146
Rufiji	158	18	7	0.393	0	0	0	0.000	18	7	0.393
Mafia	77	9	6	0.667	40	5	13	2.717	14	19	1.372
Total	729	84	79	0.943	263	36	35	0.979	120	115	0.954

Table 7.2.27: Number of Agricultural Households, Area Planted (ha) and Quantity of Radish Harvested (tons) by Season and District;2002/03 Agricultural Year

Radish											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	0	0	0	0.000	84	101	0	0.000	101	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	0	0	0	0.000	84	101	0	0.000	101	0	0.000

Table 7.2.28: Number of Agricultural Households, Area Planted (ha) and Quantity of Cucumber Harvested (tons) by Season and District;2002/03 Agricultural Year

Cucumber											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	34	11	16	1.520	65	29	39	1.378	39	56	1.417
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	203	46	29	0.626	0	0	0	0.000	46	29	0.626
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	237	57	45	0.794	65	29	39	1.378	86	85	0.989

Table 7.2.29: Number of Agricultural Households, Area Planted (ha) and Quantity of Spinnach Harvested (tons) by Season and District;2002/03 Agricultural Year

Spinnach											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	98	4	0	0.000	4	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	47	2	4	2.223	2	4	2.223
Mkuranga	76	9	0	0.043	0	0	0	0.000	9	0	0.043
Rufiji	74	15	2	0.124	0	0	0	0.000	15	2	0.124
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	150	24	2	0.093	145	6	4	0.726	30	6	0.218

Table 7.2.30: Number of Agricultural Households, Area Planted (ha) and Quantity of Cabbage Harvested (tons) by Season and District;2002/03 Agricultural Year

Cabbage											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	98	4	0	0.000	4	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	47	13	0	0.000	95	9	19	2.195	22	19	0.860
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	47	13	0	0.000	192	13	19	1.506	26	19	0.729

Table 7.2.31: Number of Agricultural Households, Area Planted (ha) and Quantity of Seaweed Harvested (tons) by Season and District;2002/03 Agricultural Year

Seaweed											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	316	171	180	1.055	316	183	188	1.024	354	368	1.039
Total	316	171	180	1.055	316	183	188	1.024	354	368	1.039

Table 7.2.32: Number of Agricultural Households, Area Planted (ha) and Quantity of Cotton Harvested (tons) by Season and District;2002/03 Agricultural Year

Cotton											
District	Short Rainy Season				Long Rainy Season				Total		
	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Number of Households	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)	Planted Area (ha)	Quantity Harvested (tons)	Yield (tons/ha)
Bagamoyo	102	82	0	0.000	195	59	117	1.976	141	117	0.832
Kibaha	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Kisarawe	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mkuranga	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Rufiji	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Mafia	0	0	0	0.000	0	0	0	0.000	0	0	0.000
Total	102	82	0	0.000	195	59	117	1.976	141	117	0.832

PERMANENT CROPS

7.3.1 PERMANENT CROPS: Production of Permanent Crops by Crop Type and District - Pwani Region

		Area Planted (ha)	Area Harvested (ha)	Quantity Harvested (tons)	Yield (Kgs/ha)
Bagamoyo	Pigeon Pea	206	173	65.07	316.1
	Star Fruit	70	30	7.73	110.7
	Coconut	3,155	2,772	4,659.34	1,476.7
	Cashewnut	6,214	3,027	1,317.44	212.0
	Wattle	0	0	0.00	0.0
	Sugarcane	67	10	10.19	153.0
	Jack Fruit	16	12	282.96	17,207.4
	Banana	790	512	1,274.16	1,612.1
	Avocado	0	32	34.12	0.0
	Mango	1,261	577	12,710.48	10,080.9
	Pawpaw	207	26	43.03	208.0
	Pineapple	1,762	1,185	7,545.44	4,281.8
	Orange	2,001	674	2,115.42	1,057.1
	Mandarine/Tangerine	0	0	4.56	0.0
	Guava	0	0	0.00	0.0
	Lime/Lemon	60	60	48.56	805.6
	Total	15,810	9,091	30,118.50	1,905.0
Kibaha	Rubber Vine Fruit	0	0	0.00	0.0
	Pigeon Pea	46	32	4.21	91.8
	Palm Oil	0	1	4.13	0.0
	Coconut	1,317	72	938.12	712.2
	Cashewnut	2,062	819	1,199.08	581.6
	Sugarcane	9	0	0.00	0.0
	Mshelisheli	0	0	0.21	0.0
	Jack Fruit	0	2	23.64	0.0
	Mpesheni	0	0	0.74	16,666.7
	Banana	64	27	262.32	4,084.4
	Mango	14	44	240.67	17,501.9
	Pawpaw	0	0	39.55	0.0
	Pineapple	31	20	136.61	4,364.3
	Orange	1,201	74	979.32	815.5
	Grape Fruit	149	0	0.00	0.0
	Mandarine/Tangerine	3	0	7.98	2,557.2
	Guava	0	0	4.34	48,756.1
Lime/Lemon	0	0	6.63	0.0	
Total	4,896	1,090	3,847.56	785.9	

cont.... PERMANENT CROPS: Production of Permanent Crops by Crop Type and District - Pwani Region

		Area Planted (ha)	Area Harvested (ha)	Quantity Harvested (tons)	Yield (Kgs/ha)
Kisarawe	Pigeon Pea	441	313	121.13	274.8
	Star Fruit	21	18	688.26	32,559.1
	Palm Oil	67	10	6.39	94.9
	Coconut	1,575	1,284	2,358.02	1,497.1
	Cashewnut	3,541	2,205	1,306.36	368.9
	Jack Fruit	1,042	84	853.58	819.1
	Mpesheni	4	4	0.00	0.0
	Banana	1,100	901	3,133.89	2,849.4
	Mango	302	277	1,132.63	3,752.1
	Pawpaw	170	115	516.17	3,041.9
	Pineapple	23	0	0.00	0.0
	Orange	1,937	1,366	7,485.26	3,865.2
	Mandarine/Tangerine	153	120	1,063.68	6,931.0
	Lime/Lemon	13	8	8.10	619.6
	Total	10,389	6,705	18,673.45	1,797.5
Mkuranga	Pigeon Pea	613	533	99.85	162.8
	Star Fruit	48	19	238.36	4,923.2
	Palm Oil	20	20	42.92	2,175.9
	Coconut	4,569	4,581	10,276.31	2,249.2
	Cashewnut	19,636	17,137	6,339.61	322.9
	Jack Fruit	71	46	126.75	1,777.7
	Mpesheni	161	138	354.18	2,201.5
	Banana	179	122	590.02	3,299.4
	Mango	457	389	1,233.60	2,698.5
	Pawpaw	59	59	137.41	2,325.1
	Pineapple	906	599	823.92	909.0
	Orange	1,162	824	1,240.73	1,067.3
	Mandarine/Tangerine	1,190	149	116.34	97.8
	Guava	4	4	3.62	950.0
	Lime/Lemon	92	71	141.41	1,531.6
Total	29,168	24,692	21,765.03	746.2	
Rufiji	Pigeon Pea	207	79	19.50	94.1
	Palm Oil	3	0	0.30	114.4
	Coconut	1,906	1,223	2,130.23	1,117.9
	Cashewnut	10,591	7,182	2,436.95	230.1
	Jack Fruit	19	16	0.00	0.0
	Banana	484	394	1,600.81	3,304.2
	Avocado	19	9	5.85	308.8
	Mango	160	0	279.10	1,739.1
	Pawpaw	61	29	324.23	5,294.9
	Pineapple	533	192	876.00	1,642.9
	Orange	1,294	623	5,649.58	4,367.0
	Mandarine/Tangerine	48	48	0.00	0.0
	Guava	33	0	0.00	0.0
	Lime/Lemon	20	3	23.58	1,188.1
	Total	15,378	9,799	13,346.13	867.9

cont.... PERMANENT CROPS: Production of Permanent Crops by Crop Type and District - Pwani Region

		Area Planted (ha)	Area Harvested (ha)	Quantity Harvested (tons)	Yield (Kgs/ha)
Mafia	Star Fruit	2	2	2.63	1,315.0
	Coconut	4,778	3,238	10,369.68	2,170.2
	Cashewnut	220	159	111.38	507.1
	Banana	920	313	727.72	790.6
	Mango	50	38	334.41	6,675.3
	Pineapple	372	98	36.61	98.3
	Orange	40	9	1,337.11	33,037.7
	Lime/Lemon	7	4	2.66	391.4
	Total	6,390	3,861	12,922.20	2,022.2
Total	Rubber Vine Fruit	0	0	0	0.0
	Pigeon Pea	1,513	1,129	309.75	204.7
	Star Fruit	141	69	936.98	6,627.8
	Palm Oil	90	31	53.74	599.4
	Coconut	17,300	13,171	30,731.70	1,776.4
	Cashewnut	42,263	30,529	12,710.83	300.8
	Wattle	0	0	0.00	0.0
	Sugarcane	75	10	10.19	135.7
	Mshelisheli	0	0	0.21	0.0
	Jack Fruit	1,149	159	1,286.93	1,120.1
	Mpesheni	165	142	354.92	2,153.5
	Banana	3,538	2,268	7,588.92	2,144.8
	Avocado	19	41	39.96	2,110.3
	Mango	2,244	1,325	15,930.89	7,098.7
	Pawpaw	497	230	1,060.39	2,134.0
	Pineapple	3,628	2,094	9,418.57	2,595.8
	Orange	7,635	3,571	18,807.42	2,463.2
	Grape Fruit	149	0	0.00	0.0
	Mandarine/Tangerine	1,395	317	1,192.55	855.0
	Guava	36	4	7.96	218.7
Lime/Lemon	192	146	230.95	1,200.7	
Total	82,031	55,237	100,672.88	1,227.3	

7.3.2 PERMANENT CROP: Area Planted by Crop Type - Pwani Region

Crop	Area Planted	%
Cashewnut	42,263	51.5
Coconut	17,300	21.1
Orange	7,635	9.3
Pineapple	3,628	4.4
Banana	3,538	4.3
Mango	2,244	2.7
Pigeon Pea	1,513	1.8
Mandaraine/Tangerine	1,395	1.7
Jack Fruit	1,149	1.4
Pawpaw	497	0.6
Lime/Lemon	192	0.2
Mpesheni	165	0.2
Grape Fruit	149	0.2
Star Fruit	141	0.2
Palm Oil	90	0.1
Sugarcane	75	0.1
Guava	36	0.0
Avocado	19	0.0
Rubber Vine Fruit	0	0.0
Wattle	0	0.0
Mshelisheli	0	0.0
Total	82,031	100.0

7.3.3 PERMANENT CROPS: Area Planted with Cashewnuts by District

Cashewnuts					
District	Area planted with cashewnuts(Ha)	Total Area planted (ha)	% of Total Area Planted	hh with cashewnuts	Average Planted Area per Household
Bagamoyo	6,214	15,810	15	4,085	1.52
Kibaha	2,062	4,896	5	2,889	0.71
Kisarawe	3,541	10,389	8	6,254	0.57
Mkuranga	19,636	29,168	46	17,404	1.13
Rufiji	10,591	15,378	25	9,026	1.17
Mafia	220	6,390	1	542	0.41
Total	42,263	82,031	100	40,199	1.05

7.3.4 PERMANENT CROPS: Area planted with Coconuts by District

Coconuts					
District	Area planted with coconuts	Total Area planted (ha)	% of Total Area Planted	hh with coconuts	Average Planted Area per Household
Bagamoyo	3,155	29,168	18	3,292	0.96
Kibaha	1,317	15,378	8	634	2.08
Kisarawe	1,575	15,810	9	5,302	0.30
Mkuranga	4,569	10,389	26	8,836	0.52
Rufiji	1,906	4,896	11	2,456	0.78
Mafia	4,778	6,390	28	3,572	1.34
Total	17,300	82,031	100	24,094	0.72

7.3.5 PERMANENT CROPS: Area planted with Oranges by District

Oranges					
District	Area planted with oranges(Ha)	Total Area planted (ha)	% of Total Area Planted	hh with oranges	Average Planted Area per Household
Bagamoyo	2,001	15,810	26	2,076	0.96
Kibaha	1,201	4,896	16	182	6.58
Kisarawe	1,937	10,389	25	6,226	0.31
Mkuranga	1,162	29,168	15	3,863	0.30
Rufiji	1,294	15,378	17	2,455	0.53
Mafia	40	6,390	1	203	0.20
Total	7,635	82,031	100	15,006	0.51

7.3.6 PERMANENT CROPS: Area Planted with Pineapples by District

Pineapples					
District	Area planted with pineapples(Ha)	Total Area planted (ha)	% of Total Area Planted	hh with pineapples	Average Planted Area per Household
Bagamoyo	1,762	15,810	49	1,486	1.19
Kibaha	31	4,896	1	79	0.39
Kisarawe	23	10,389	1	47	0.49
Mkuranga	906	29,168	25	2,213	0.41
Rufiji	533	15,378	15	1,485	0.36
Mafia	372	6,390	10	60	6.25
Total	3,628	82,031	100	5,370	0.68

7.3.7 PERMANENT CROPS: Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Fertilizer Use				Total
	Mostly Farm Yard Manure	Mostly Compost	Mostly Inorganic Fertilizer	No Fertilizer Applied	
Rubber Vine Fruit
Pigeon Pea	8	.	59	1,426	1,493
Star Fruit	.	.	.	141	141
Palm Oil	.	26	.	63	90
Coconut	958	556	219	15,519	17,252
Cashewnut	1,122	3,834	1,011	35,069	41,036
Wattle
Sugarcane	.	.	.	75	75
Mshelisheli
Jack Fruit	.	.	.	1,145	1,145
Mpesheni	.	53	.	112	165
Banana	279	120	.	3,138	3,538
Avocado	.	19	.	.	19
Mango	125	136	.	1,981	2,243
Pawpaw	207	.	.	290	497
Pineapple	15	15	346	3,252	3,628
Orange	200	798	20	6,595	7,613
Grape Fruit	.	.	.	149	149
Mandarine/Tangerine	.	.	.	1,386	1,386
Guava	.	.	.	36	36
Lime/Lemon	8	34	.	150	192
Total	2,922	5,592	1,655	70,531	80,699

7.3.7 PERMANENT CROPS: (cont) Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Mostly Farm Yard Manure	Total	%
Sour Soup	0	0	0.0
Pigeon Pea	8	1,493	0.5
Star Fruit	0	141	0.0
Palm Oil	0	90	0.0
Coconut	958	17,252	5.6
Cashewnut	1,122	41,036	2.7
Sugarcane	0	0	0.0
Tamarin	0	75	0.0
Jack Fruit	0	0	0.0
Mpesheni	0	1,145	0.0
Banana	0	165	0.0
Avocado	279	3,538	7.9
Mango	0	19	0.0
Pawpaw	125	2,243	5.6
Pineapple	207	497	41.6
Orange	15	3,628	0.4
Grape	200	7,613	2.6
Mandarine/Tangerine	0	149	0.0
Guava	0	1,386	0.0
Lime/Lemon	0	36	0.0
Bilimbi	8	192	4.0
Total	2,922	80,699	3.6

7.3.7 PERMANENT CROPS: (cont) Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Mostly Inorganic Fertilizer	Total	%
Sour Soup	0	0	0.0
Pigeon Pea	59	1,493	3.9
Star Fruit	0	141	0.0
Palm Oil	0	90	0.0
Coconut	219	17,252	1.3
Cashewnut	1,011	41,036	2.5
Sugarcane	0	0	0.0
Tamarin	0	75	0.0
Jack Fruit	0	0	0.0
Mpesheni	0	1,145	0.0
Banana	0	165	0.0
Avocado	0	3,538	0.0
Mango	0	19	0.0
Pawpaw	0	2,243	0.0
Pineapple	0	497	0.0
Orange	346	3,628	9.5
Grape	20	7,613	0.3
Mandarine/Tangerine	0	149	0.0
Guava	0	1,386	0.0
Lime/Lemon	0	36	0.0
Bilimbi	0	192	0.0
Total	1,655	80,699	2.1

7.3.7 PERMANENT CROPS: (cont) Planted Area with Fertilizer by Fertilizer Type and Crop

Crop	Mostly Compost	Total	%
Sour Soup	0	0	0.0
Pigeon Pea	0	1,493	0.0
Star Fruit	0	141	0.0
Palm Oil	26	90	29.5
Coconut	556	17,252	3.2
Cashewnut	3,834	41,036	9.3
Sugarcane	0	0	0.0
Tamarin	0	75	0.0
Jack Fruit	0	0	0.0
Mpesheni	0	1,145	0.0
Banana	53	165	32.0
Avocado	120	3,538	3.4
Mango	19	19	100.0
Pawpaw	136	2,243	6.1
Pineapple	0	497	0.0
Orange	15	3,628	0.4
Grape	798	7,613	10.5
Mandarine/Tangerine	0	149	0.0
Guava	0	1,386	0.0
Lime/Lemon	0	36	0.0
Bilimbi	34	192	17.8
Total	5,592	80,699	6.9

AGROPROCESSING

8.1.1a: Number of Crop Growing Households Reported to Have Processed Crops by District; 2002/03 Agricultural Year

District	Households that Processed Crops		Households that did not Process Crops		Total	
	Number	%	Number	%	Number	%
Bagamoyo	10,153	27	27,137	73	37,290	100
Kibaha	6,210	44	7,819	56	14,029	100
Kisarawe	14,332	77	4,305	23	18,637	100
Mkuranga	12,179	35	22,565	65	34,744	100
Rufiji	10,781	35	20,124	65	30,906	100
Mafia	2,049	35	3,876	65	5,924	100
Total	55,704	39	85,826	61	141,530	100

8.1.1b Number of Crop Growing Households by Method of Processing and District; 2002/03 Agricultural Year

District	Method of Processing								Total
	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Farmers Association	By Co-operative Union	By Trader	Other	By Factory	
Bagamoyo	2,317	584	6,377	99	190	586	0	0	10,153
Kibaha	4,122	84	2,003	0	0	0	0	0	6,210
Kisarawe	11,654	90	2,208	0	0	0	380	0	14,332
Mkuranga	11,811	224	145	0	0	0	0	0	12,179
Rufiji	8,222	202	2,277	0	0	0	0	81	10,781
Mafia	2,049	0	0	0	0	0	0	0	2,049
Total	40,175	1,183	13,010	99	190	586	380	81	55,704

8.1.1c AGRO PROCESSING: Number of Crop Growing Households Processing Crops During 2002/03 Agricultural Year by Location and Crop, Pwani Region

Crop	Method of Processing								Total
	On Farm by Hand	On Farm by Machine	By Neighbour Machine	By Farmers Association	By Co-operative Union	By Trader	Other	By Factory	
Maize	11,079	1,087	12,408	99	190	586	0	0	25,448
Paddy	8,020	162	917	0	0	0	0	81	9,180
Sorghum	1,513	0	481	0	0	42	0	0	2,036
Cassava	25,938	141	982	0	0	0	380	0	27,442
Sweet Potatoes	88	0	0	0	0	0	0	0	88
Cowpeas	681	0	0	0	0	0	0	82	763
Pigeon Peas	40	0	0	0	0	0	0	0	40
Simsim	42	0	0	0	0	0	0	0	42
Groundnut	109	0	0	0	0	0	0	0	109
Oil Palm	351	0	0	0	0	0	0	0	351
Coconut	5,893	0	85	0	0	0	0	0	5,978
Cashewnut	2,513	0	85	0	0	0	0	0	2,598
Banana	72	0	0	0	0	0	0	0	72
Mango	61	0	0	0	0	0	0	0	61
Orange	105	0	0	0	0	0	0	0	105
Total	56,506	1,390	14,957	99	190	629	380	163	74,313

8.1.1d AGRO PROCESSING: Number of Crop Growing Households Reporting Processing Crops During 2002/03 Agricultural Year by Use of Product and Crop, Pwani Region

Crop	Product Use						
	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	Other	Total
Maize	25,064	100	0	0	200	85	25,448
Paddy	9,078	0	0	33	70	0	9,180
Sorghum	2,036	0	0	0	0	0	2,036
Cassava	27,300	0	0	35	107	0	27,442
Sweet Potatoes	88	0	0	0	0	0	88
Cowpeas	689	0	0	0	74	0	763
Pigeon Peas	40	0	0	0	0	0	40
Simsim	0	0	42	0	0	0	42
Groundnut	109	0	0	0	0	0	109
Oil Palm	192	0	159	0	0	0	351
Coconut	5,688	0	53	105	133	0	5,978
Cashewnut	2,462	0	136	0	0	0	2,598
Banana	72	0	0	0	0	0	72
Mango	61	0	0	0	0	0	61
Orange	105	0	0	0	0	0	105
Total	72,982	100	390	173	583	85	74,313

8.1.1e AGRO PROCESSING: Number of Crop Growing Households Reporting Processing Crops During 2002/03 Agricultural Year by Location of Sale of Product and Crop, Pwani Region

Crop	Where Sold									
	Neighbours	Local Market / Trade Store	Secondary Market	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	Total
Maize	161	48	0	145	0	129	98	2,050	22,817	25,448
Paddy	108	0	85	38	0	0	24	1,719	7,206	9,180
Sorghum	0	0	0	0	0	0	0	85	1,951	2,036
Cassava	776	244	0	47	141	0	380	916	24,937	27,442
Sweet Potatoes	0	0	0	0	0	0	0	0	88	88
Cowpeas	40	0	0	0	0	0	0	75	648	763
Pigeon Peas	0	0	0	0	0	0	0	0	40	40
Simsim	0	0	0	0	0	0	42	0	0	42
Groundnut	0	0	0	0	0	0	0	0	109	109
Oil Palm	0	0	0	0	0	0	159	0	192	351
Coconut	565	85	0	0	0	0	0	0	5,328	5,978
Cashewnut	96	0	0	0	0	0	40	0	2,462	2,598
Banana	0	0	0	0	0	0	0	0	72	72
Mango	0	0	0	0	0	0	0	0	61	61
Orange	0	0	0	0	0	0	0	0	105	105
Total	1,747	377	85	231	141	129	742	4,846	66,014	74,313

8.1.1f AGRO PROCESSING: Number of Crop Growing Households By Main Product and District During 2002/03 Agriculture Year, Pwani Region

District	Main Product						Total
	Flour / Meal	Grain	Oil	Juice	Pulp	Other	
Bagamoyo	9,159	993	0	0	0	0	10,153
Kibaha	4,461	1,080	102	0	0	566	6,210
Kisarawe	11,788	1,282	189	0	39	1,034	14,332
Mkuranga	8,060	1,277	2,044	0	0	799	12,179
Rufiji	7,563	2,540	678	0	0	0	10,781
Mafia	24	1,061	445	20	0	499	2,049
Total	41,056	8,234	3,457	20	39	2,898	55,704

8.1.1g AGRO PROCESSING: Number of Crop Growing Households By Use of Primary Processed Product and District During 2002/03 Agriculture Year, Pwani Region

District	Product Use						Total
	Household / Human Consumption	Fuel for Cooking	Sale Only	Animal Consumption	Did Not Use	Other	
Bagamoyo	11,663	100	0	0	0	0	11,763
Kibaha	7,882	0	117	35	34	0	8,069
Kisarawe	21,336	0	39	0	193	0	21,568
Mkuranga	15,275	0	159	0	85	0	15,518
Rufiji	14,374	0	53	105	250	85	14,867
Mafia	2,452	0	22	33	22	0	2,528
Total	72,982	100	390	173	583	85	74,313

8.1.1h AGRO PROCESSING: Number of Crop Growing Households By Where Product Sold and District During 2002/03 Agriculture Year, Pwani Region

District	Where Sold									Total
	Neighbours	Local Market / Trade Store	Secondary Market	Marketing Co-operative	Farmers Association	Large Scale Farm	Trader at Farm	Other	Did not Sell	
Bagamoyo	76	0	0	98	0	0	98	941	8,941	10,153
Kibaha	276	0	0	38	0	0	42	0	5,853	6,210
Kisarawe	180	48	0	47	44	47	0	0	13,966	14,332
Mkuranga	157	250	0	0	0	82	315	0	11,375	12,179
Rufiji	837	79	85	0	0	0	74	2,724	6,983	10,781
Mafia	45	0	0	0	0	0	0	0	2,004	2,049
Total	1,571	377	85	183	44	129	529	3,664	49,120	55,704

8.1.1i AGRO PROCESSING: Number of Crop Growing Households By type of By-Product and District During 2002/03 Agriculture Year, Pwani Region

District	By Product								Total
	Bran	Cake	Husk	Juice	Pulp	Shell	No by-product	Other	
Bagamoyo	7,021	100	298	87	0	0	2,647	0	10,153
Kibaha	2,344	66	154	0	74	1,135	2,437	0	6,210
Kisarawe	5,020	331	0	0	0	6,899	1,985	97	14,332
Mkuranga	2,754	2,006	522	0	169	1,139	5,178	411	12,179
Rufiji	7,127	525	1,443	0	1,390	211	0	85	10,781
Mafia	425	45	1,028	0	0	63	0	487	2,049
Total	24,692	3,072	3,445	87	1,633	9,446	12,247	1,081	55,704

MARKETING

10.1: Number of Crop Growing Households Reported to have Sold Agricultural Produce by District During 2002/03; Pwani Region

District	Households that Sold		Households that Did not Sell		Total Number of households
	Number	%	Number	%	
Bagamoyo	12,132	33	25,158	67	37,290
Kibaha	6,662	47	7,367	53	14,029
Kisarawe	11,381	61	7,257	39	18,637
Mkuranga	24,950	72	9,794	28	34,744
Rufiji	18,600	60	12,305	40	30,906
Temeke	4,732	80	1,192	20	5,924
Total	78,458	55	63,072	45	141,530

10.2: Number of Households who Reported Main Reasons for Not Selling their Crops by District During 2002/03 Agricultural Year, Pwani Region

District	Main Reasons for Not Selling Crops									
	Price Too Low	Production Insufficient to Sell	Market Too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Government Regulatory Board Problems	Other	Not applicable	Total
Bagamoyo	302	13,648	0	0	298	96	0	8,468	11,246	34,058
Kibaha	243	2,809	20	20	0	0	59	3,065	6,750	12,967
Kisarawe	47	4,768	0	0	0	184	0	3,075	10,426	18,500
Mkuranga	134	5,355	81	0	327	169	82	4,808	20,856	31,810
Rufiji	143	6,577	0	72	278	0	213	6,346	16,179	29,808
Mafia	45	1,223	23	15	0	48	0	121	4,320	5,796
Total	914	34,380	124	108	902	497	353	25,884	69,778	132,939

10.3 Proportion of Households who Reported Main Reason for Not Selling Their Crops by District during 2002/03 Agricultural Year, Pwani Region

District	Main Reasons for Not Selling Crops									
	Price Too Low	Production Insufficient to Sell	Market Too Far	Farmers Association Problems	Co-operative Problems	Trade Union Problems	Government Regulatory Board Problems	Other	Not applicable	Total
Bagamoyo	0.9	40.1	0.0	0.0	0.9	0.3	0.0	24.9	33.0	100
Kibaha	1.9	21.7	0.2	0.2	0.0	0.0	0.5	23.6	52.1	100
Kisarawe	0.3	25.8	0.0	0.0	0.0	1.0	0.0	16.6	56.4	100
Mkuranga	0.4	16.8	0.3	0.0	1.0	0.5	0.3	15.1	65.6	100
Rufiji	0.5	22.1	0.0	0.2	0.9	0.0	0.7	21.3	54.3	100
Mafia	0.8	21.1	0.4	0.3	0.0	0.8	0.0	2.1	74.5	100
Total	0.7	25.9	0.1	0.1	0.7	0.4	0.3	19.5	52.5	100

IRRIGATION/EROSION CONTROL

11.1 Number and Percent of Households Reporting use of irrigation during 2002/03 Agricultural year by District

	Households Practicing Irrigation		Households not Practicing Irrigation		Total	
	Number of Household	%	Number of Household	%	Number of Household	%
Bagamoyo	988	2.7	36301	97.3	37290	100.0
Kibaha	1045	7.4	12984	92.6	14029	100.0
Kisarawe	324	1.7	18313	98.3	18637	100.0
Mkuranga	2436	7.0	32308	93.0	34744	100.0
Rufiji	395	1.3	30510	98.7	30906	100.0
Mafia	121	2.0	5803	98.0	5924	100.0
Total	5309	3.8	136220	96.2	141530	100.0

11.2 IRRIGATION: Area (ha) of Irrigatable and NON Irrigated Land by District during 2002/03 Agriculture Year

District	Irrigatable Area (ha)	Irrigated Land (ha)	% of Irrigatable land used
Bagamoyo	240	172	71.7
Kibaha	467	363	77.7
Kisarawe	193	93	48.4
Mkuranga	1974	1608	81.4
Rufiji	298	298	100.0
Mafia	32	29	91.6
Total	3204	2563	80.0

11.3: IRRIGATION: Number of Agriculture Households using irrigation by Source of Irrigation Water by Districts During the 2002/03 Agricultural Year

District	Source of Irrigation Water						Total
	River	Dam	Well	Borehole	Canal	Pipe water	
Bagamoyo	595	98	198	0	98	0	988
Kibaha	604	111	204	0	23	102	1045
Kisarawe	0	0	324	0	0	0	324
Mkuranga	242	164	1321	158	311	240	2436
Rufiji	395	0	0	0	0	0	395
Mafia	35	0	86	0	0	0	121
Total	1871	374	2132	158	432	342	5309

11.4: IRRIGATION: Number of Agriculture Households by Method Used to obtain water and District during 2002/03 Agricultural Year

District	Method of Obtaining Water					Total
	Gravity	Hand Bucket	Hand Pump	Motor Pump	Other	
Bagamoyo	98	693	98	99	0	988
Kibaha	41	858	85	0	61	1045
Kisarawe	0	324	0	0	0	324
Mkuranga	84	2113	80	160	0	2436
Rufiji	0	158	0	0	238	395
Mafia	15	106	0	0	0	121
Total	238	4251	262	259	299	5309

11.5 IRRIGATION: Number of Agriculture Households by Method of Field Application of Irrigation Water and District for the 2002/03 Agricultural Year

District	Method of Application				Total
	Flood	Sprinkler	Water Hose	Bucket / Watering Can	
Bagamoyo	295	98	0	596	988
Kibaha	41	0	104	900	1,045
Kisarawe	0	0	0	324	324
Mkuranga	324	0	0	2,112	2,436
Rufiji	238	0	0	158	395
Mafia	15	0	0	106	121
Total	913	98	104	4,195	5,309

11.6: Number of Households with Erosion Control/Water Harvesting Facilities on their Land By District

District	Presence of Erosion Control/Water Harvesting Facilities				Number of Households
	Have Facility		Does Not Have Facility		
	Number	%	Number	%	
Bagamoyo	276	1	37,014	99	37,290
Kibaha	141	1	13,888	99	14,029
Kisarawe	666	4	17,972	96	18,637
Mkuranga	738	2	34,006	98	34,744
Rufiji	0	0	30,906	100	30,906
Mafia	115	2	5,809	98	5,924
Total	1,935	1	139,595	99	141,530

11.7 EROSION CONTROL: Number of Erosion Control/Water Harvesting Structures By Type and District as of 2002/03 / Year

District	Type of Erosion Control								Total
	Terraces	Erosion Control Bunds	Gabions / Sandbag	Vetiver Grass	Tree Belts	Water Harvesting Bunds	Drainage Ditches	Dam	
Bagamoyo	.	1,529	.	.	498	.	.	.	2,027
Kibaha	141	3,274	.	.	1,590	.	.	164	5,168
Kisarawe	.	332	473	.	.	2,899	.	.	3,703
Mkuranga	.	2,077	.	244	5,616	490	.	.	8,428
Mafia	.	2,587	.	.	46	2,820	.	.	5,453
Total	141	9,799	473	244	7,749	6,209	.	164	24,779

ACCESS TO FARM INPUTS

Table 12.1.1 ACCESS TO INPUTS: Number of Crop Growing Households Using Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Using Chemical Fertilizer		NOT Using Chemical Fertilizer		Total Number of Crop growing households
	No of households	%	No of households	%	
Bagamoyo	840	2	36,450	98	37,290
Kibaha	424	3	13,605	97	14,029
Kisarawe	229	1	18,408	99	18,637
Mkuranga	2,046	6	32,698	94	34,744
Rufiji	0	0	30,906	100	30,906
Mafia	262	4	5,662	96	5,924
Total	3,801	3	137,728	97	141,530

Table 12.1.2 ACCESS TO INPUTS: Number of Crop Growing Households Using Farm Yard Manure by District during 2002/03 Agricultural Year

District	Using Farm Yard Manure		Not Using Farm Yard Manure		Total Number of Crop growing households
	No of households	%	No of households	%	
Bagamoyo	1,651	4	35,741	96	37,391
Kibaha	1,097	8	12,963	92	14,060
Kisarawe	889	5	17,749	95	18,637
Mkuranga	3,511	10	31,157	90	34,668
Rufiji	551	2	30,437	98	30,988
Mafia	1,613	27	4,311	73	5,924
Total	9,311	7	132,358	93	141,669

Table 12.1.3 ACCESS TO INPUTS: Number of Crop Growing Households Using COMPOST Manure by District during 2002/03 Agricultural Year

District	Using Compost		Not Using Compost		Total Number of Crop growing households
	No of households	%	No of households	%	
Bagamoyo	2,255	6	35,035	94	37,290
Kibaha	714	5	13,315	95	14,029
Kisarawe	896	5	17,741	95	18,637
Mkuranga	4,820	14	29,999	86	34,820
Rufiji	2,153	7	28,753	93	30,906
Mafia	578	10	5,346	90	5,924
Total	11,417	8	130,189	92	141,605

Table 12.1.4 ACCESS TO INPUTS: Number of Crop Growing Households Using Insecticide/Fungicides by District during 2002/03 Agricultural Year

District	Using Insecticides/Fungicide		Not Using Insecticide/Fungi		Total Number of Crop growing households
	No of households	%	No of households	%	
Bagamoyo	2,023	5	35,367	95	37,390
Kibaha	1,888	13	12,141	87	14,029
Kisarawe	833	4	17,804	96	18,637
Mkuranga	9,990	29	24,754	71	34,744
Rufiji	2,185	7	28,638	93	30,823
Mafia	100	2	5,825	98	5,924
Total	17,019	12	124,528	88	141,548

Table 12.1.5 ACCESS TO INPUTS: Number of Crop Growing Households Using Herbicides by District during 2002/03 Agricultural Year

District	Using Herbicides		Not Using Herbicides		Total Number of Crop growing households
	No of households	%	No of households	%	
Bagamoyo	183	0	37,107	100	37,290
Kibaha	42	0	13,987	100	14,029
Kisarawe	0	0	18,637	100	18,637
Mkuranga	79	0	34,665	100	34,744
Rufiji	0	0	30,906	100	30,906
Mafia	22	0	5,903	100	5,924
Total	326	0	141,204	100	141,530

Table 12.1.6 ACCESS TO INPUTS: Number of Crop Growing Households using Improved Seeds by District during 2002/03 Agricultural Year

District	Using Improved Seeds		Not Using Improved Seeds		Total Number of Crop growing households
	No of households	%	No of households	%	
Bagamoyo	6,085	16	31,205	84	37,290
Kibaha	3,415	24	10,614	76	14,029
Kisarawe	4,722	25	13,915	75	18,637
Mkuranga	5,230	15	29,514	85	34,744
Rufiji	1,207	4	29,698	96	30,906
Mafia	462	8	5,462	92	5,924
Total	21,121	15	120,409	85	141,530

Table 12.1.7 ACCESS TO INPUTS: Number of Agricultural Households by Source of Chemical Fertilizer and District, 2002/03 Agricultural Year

District	Co-operative		Local Market / Trade Store		Locally Produced by Household		Neighbour		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	0	0	840	2	0	0	0	0	36,450	98	37,290	100
Kibaha	34	0	391	3	0	0	0	0	13,605	97	14,029	100
Kisarawe	0	0	229	1	0	0	0	0	18,408	99	18,637	100
Mkuranga	0	0	1,887	5	0	0	159	0	32,698	94	34,744	100
Rufiji	0	0	0	0	0	0	0	0	30,906	100	30,906	100
Mafia	0	0	196	3	21	0	46	1	5,662	96	5,924	100
Total	34	0	3,542	3	21	0	205	0	137,728	97	141,530	100

Table 12.1.8 ACCESS TO INPUTS: Number of Agricultural Households by Source of Farm Yard Manure and District, 2002/03 Agricultural Year

District	Co-operative		Local Farmers Group		Local Market / Trade Store		Development Project		Crop Buyers		Large Scale Farm	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	0	0	0	0	0	0	0	0	0	0	0	0
Kibaha	0	0	23	0	109	1	118	1	0	0	34	0
Kisarawe	0	0	0	0	44	0	0	0	0	0	139	1
Mkuranga	162	0	0	0	73	0	0	0	85	0	693	2
Rufiji	0	0	0	0	0	0	0	0	0	0	0	0
Mafia	23	0	24	0	24	0	0	0	0	0	21	0
Total	185	0	48	0	250	0	118	0	85	0	887	1

Table 12.1.8 ACCESS TO INPUTS: Number of Agricultural Households by Source of Farm Yard Manure and District, 2002/03 Agricultural Year

District	Locally Produced by Household		Neighbour		Other		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	645	2	1,005	3	0	0	35,741	96	37,391	100
Kibaha	328	2	445	3	41	0	12,963	92	14,060	100
Kisarawe	520	3	186	1	0	0	17,749	95	18,637	100
Mkuranga	837	2	1,601	5	60	0	31,157	90	34,668	100
Rufiji	238	1	313	1	0	0	30,437	98	30,988	100
Mafia	1,168	20	329	6	24	0	4,311	73	5,924	100
Total	3,736	3	3,879	3	125	0	132,358	93	141,669	100

Table 12.1.9 ACCESS TO INPUTS: Number of Agricultural Households and Source of COMPOST Manure by District, 2002/03 Agricultural Year

District	Co-operative		Local Farmers Group		Local Market / Trade Store		Development Project		Crop Buyers		Locally Produced by Household		Neighbour		Other		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	0	0	0	0	0	0	0	0	0	0	2,255	6	0	0	0	0	35,035	94	37,290	100
Kibaha	0	0	0	0	0	0	0	0	0	0	653	5	61	0	0	0	13,315	95	14,029	100
Kisarawe	0	0	0	0	0	0	0	0	0	0	896	5	0	0	0	0	17,741	95	18,637	100
Mkuranga	162	0	81	0	0	0	0	0	0	0	4,498	13	0	0	80	0	29,999	86	34,820	100
Rufiji	1,628	5	197	1	256	1	0	0	0	0	0	0	72	0	0	0	28,753	93	30,906	100
Mafia	140	2	94	2	24	0	70	1	23	0	228	4	0	0	0	0	5,346	90	5,924	100
Total	1,929	1	372	0	279	0	70	0	23	0	8,531	6	133	0	80	0	130,189	92	141,605	100

Table 12.1.10 ACCESS TO INPUTS: Number of Agricultural Households and Source of Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Co-operative		Local Farmers Group		Local Market / Trade Store		Development Project		Crop Buyers		Large Scale Farm		Neighbour		Other		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	695	2	0	0	1,229	3	0	0	0	0	0	0	99	0	0	0	35,367	95	37,390	100
Kibaha	198	1	39	0	1,526	11	42	0	0	0	0	0	42	0	42	0	12,141	87	14,029	100
Kisarawe	233	1	276	1	281	2	44	0	0	0	0	0	0	0	0	0	17,804	96	18,637	100
Mkuranga	327	1	3,579	10	5,306	15	0	0	214	1	80	0	399	1	85	0	24,754	71	34,744	100
Rufiji	0	0	842	3	942	3	171	1	159	1	0	0	71	0	0	0	28,638	93	30,823	100
Mafia	23	0	20	0	57	1	0	0	0	0	0	0	0	0	0	0	5,825	98	5,924	100
Total	1,476	1	4,755	3	9,340	7	257	0	374	0	80	0	612	0	127	0	124,528	88	141,548	100

Table 12.1.11 ACCESS TO INPUTS: Number of Agricultural Households by Source of Herbicides and District, 2002/03 Agricultural Year

District	Co-operative		Local Farmers Group		Local Market / Trade Store		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	0	0	0	0	183	0	37,107	100	37,290	100
Kibaha	42	0	0	0	0	0	13,987	100	14,029	100
Kisarawe	0	0	0	0	0	0	18,637	100	18,637	100
Mkuranga	0	0	79	0	0	0	34,665	100	34,744	100
Rufiji	0	0	0	0	0	0	30,906	100	30,906	100
Mafia	0	0	0	0	22	0	5,903	100	5,924	100
Total	42	0	79	0	205	0	141,204	100	141,530	100

12.1.12 ACCESS TO INPUTS: Number of Agricultural Households Source of Improved Seeds by District, 2002/03 Agricultural Year

District	Co-operative		Local Farmers Group		Local Market / Trade Store		Secondary Market		Development Project		Crop Buyers	Large Scale Farm	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	Number	%
Bagamoyo	195	1	201	1	3,811	10	98	0	0	0	0	102	0
Kibaha	0	0	0	0	3,384	24	0	0	0	0	31	0	0
Kisarawe	0	0	90	0	2,513	13	0	0	1,054	6	0	0	0
Mkuranga	0	0	0	0	4,706	14	60	0	0	0	0	0	0
Rufiji	0	0	0	0	1,051	3	0	0	74	0	0	0	0
Mafia	0	0	0	0	167	3	0	0	0	0	274	0	0
Total	195	0	290	0	15,632	11	157	0	1,128	1	305	102	0

cont.....12.1.12 ACCESS TO INPUTS: Number of Agricultural Households Source of Improved Seeds by District, 2002/03 Agricultural Year

District	Locally Produced by Household		Neighbour		Other		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	0	0	1,489	4	189	1	31,205	84	37,290	100
Kibaha	0	0	0	0	0	0	10,614	76	14,029	100
Kisarawe	325	2	696	4	45	0	13,915	75	18,637	100
Mkuranga	224	1	240	1	0	0	29,514	85	34,744	100
Rufiji	83	0	0	0	0	0	29,698	96	30,906	100
Mafia	0	0	21	0	0	0	5,462	92	5,924	100
Total	632	0	2,446	2	234	0	120,409	85	141,530	100

12.1.13 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total Number
	Number	%	Number	%	Number	%	Number	%	Number	%	
Bagamoyo	0	0	95	11	196	23	198	24	351	42	840
Kibaha	72	17	102	24	143	34	84	20	23	6	424
Kisarawe	0	0	0	0	0	0	0	0	229	100	229
Mkuranga	479	23	85	4	233	11	303	15	946	46	2,046
Mafia	53	20	0	0	42	16	77	29	91	35	262
Total	603	16	281	7	614	16	662	17	1,641	43	3,801

12.1.14 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Farm Yard Manure by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Bagamoyo	1,161	70	490	30	0	0	0	0	0	0	1,651
Kibaha	709	65	256	23	102	9	31	3	0	0	1,097
Kisarawe	616	69	91	10	91	10	0	0	91	10	889
Mkuranga	1,852	53	1,051	30	233	7	296	8	80	2	3,511
Rufiji	467	85	0	0	0	0	84	15	0	0	551
Mafia	1,515	94	21	1	67	4	0	0	11	1	1,613
Total	6,319	68	1,908	20	492	5	411	4	181	2	9,311

12.1.15 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of COMPOST Manure by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 10 and 20 km		Total
	Number	%	Number	%	Number	%	
Bagamoyo	2,255	100	0	0	0	0	2,255
Kibaha	678	95	36	5	0	0	714
Kisarawe	896	100	0	0	0	0	896
Mkuranga	4,738	98	0	0	83	2	4,820
Rufiji	2,153	100	0	0	0	0	2,153
Mafia	578	100	0	0	0	0	578
Total	11,298	99	36	0	83	1	11,417

12.1.16 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Improved Seeds by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Bagamoyo	1,582	26	718	12	1,239	20	586	10	1,960	32	6,085
Kibaha	202	6	498	15	1,291	38	507	15	917	27	3,415
Kisarawe	982	21	599	13	289	6	522	11	2,330	49	4,722
Mkuranga	922	18	307	6	389	7	516	10	3,096	59	5,230
Rufiji	156	13	322	27	491	41	0	0	238	20	1,207
Mafia	190	41	15	3	0	0	40	9	217	47	462
Total	4,035	19	2,460	12	3,700	18	2,170	10	8,757	41	21,121

12.1.17 ACCESS TO INPUTS: Number of Agricultural Households and Distance to Source of Insecticide/Fungicides by District, 2002/03 Agricultural Year

District	Less than 1 km		Between 1 and 3 km		Between 3 and 10 km		Between 10 and 20 km		20 km and Above		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Bagamoyo	490	24	392	19	391	19	401	20	348	17	2,023
Kibaha	334	18	274	15	455	24	273	14	552	29	1,888
Kisarawe	229	27	184	22	96	11	0	0	324	39	833
Mkuranga	2,132	21	1,521	15	3,008	30	375	4	2,954	30	9,990
Rufiji	1,171	54	309	14	161	7	244	11	301	14	2,185
Mafia	0	0	0	0	20	20	43	43	37	37	100
Total	4,357	26	2,680	16	4,131	24	1,336	8	4,517	27	17,019

12.1.18 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Chemical Fertilizer by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	8,063	22	17,986	49	890	2	76	0	1,680	5	6,325	17	100	0	1,328	4	36,450	100
Kibaha	663	5	9,351	69	126	1	0	0	265	2	2,493	18	0	0	706	5	13,605	100
Kisarawe	4,357	24	8,973	49	279	2	0	0	535	3	3,885	21	0	0	379	2	18,408	100
Mkuranga	2,987	9	21,458	66	662	2	81	0	2,311	7	4,763	15	79	0	358	1	32,698	100
Rufiji	12,176	39	12,939	42	1,030	3	71	0	1,680	5	2,604	8	85	0	321	1	30,906	100
Mafia	1,186	21	3,494	62	0	0	0	0	235	4	610	11	16	0	120	2	5,662	100
Total	29,432	21	74,200	54	2,987	2	229	0	6,706	5	20,681	15	281	0	3,212	2	137,728	100

12.1.19 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Farm Yard Manure by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	14,109	39	2,980	8	7,683	21	1,684	5	2,258	6	5,781	16	199	1	1,046	3	35,741	100
Kibaha	4,781	37	1,578	12	3,568	28	385	3	422	3	1,912	15	0	0	318	2	12,963	100
Kisarawe	11,727	66	1,843	10	1,380	8	139	1	719	4	1,896	11	0	0	45	0	17,749	100
Mkuranga	17,585	56	5,718	18	1,338	4	970	3	2,935	9	2,247	7	79	0	285	1	31,157	100
Rufiji	17,909	59	757	2	5,293	17	295	1	3,000	10	3,013	10	85	0	85	0	30,437	100
Mafia	1,677	39	646	15	879	20	296	7	198	5	561	13	0	0	55	1	4,311	100
Total	67,788	51	13,521	10	20,141	15	3,768	3	9,531	7	15,410	12	364	0	1,834	1	132,358	100

12.1.20 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using COMPOST Manure by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	3,037	9	3,692	11	9,608	27	893	3	11,976	34	4,538	13	522	1	769	2	35,035	100
Kibaha	2,327	17	2,145	16	3,589	27	982	7	1,603	12	1,888	14	170	1	611	5	13,315	100
Kisarawe	1,992	11	593	3	8,142	46	270	2	4,564	26	1,994	11	42	0	143	1	17,741	100
Mkuranga	3,138	10	4,255	14	5,513	18	537	2	13,538	45	2,252	8	79	0	686	2	29,999	100
Rufiji	9,454	33	771	3	5,447	19	1,277	4	8,537	30	3,096	11	85	0	85	0	28,753	100
Mafia	705	13	1,271	24	1,404	26	280	5	903	17	629	12	0	0	155	3	5,346	100
Total	20,653	16	12,728	10	33,702	26	4,239	3	41,121	32	14,399	11	898	1	2,449	2	130,189	100

12.1.21 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT Using Insecticides/Fungicides by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	4,398	12	24,203	68	904	3	185	1	1,400	4	2,760	8	185	1	1,331	4	35,367	100
Kibaha	444	4	8,844	73	79	1	34	0	259	2	1,936	16	0	0	544	4	12,141	100
Kisarawe	2,196	12	13,516	76	187	1	0	0	1,256	7	510	3	0	0	140	1	17,804	100
Mkuranga	1,099	4	20,896	84	607	2	0	0	857	3	1,089	4	0	0	206	1	24,754	100
Rufiji	7,276	25	17,153	60	568	2	81	0	1,814	6	1,130	4	0	0	615	2	28,638	100
Mafia	521	9	3,580	61	142	2	22	0	650	11	776	13	0	0	134	2	5,825	100
Total	15,934	13	88,192	71	2,488	2	322	0	6,236	5	8,202	7	185	0	2,970	2	124,528	100

12.1.22 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT using Herbicides by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	6,448	17	24,071	65	591	2	0	0	1,968	5	2,706	7	85	0	1,238	3	37,107	100
Kibaha	1,010	7	9,212	66	15	0	218	2	783	6	2,343	17	0	0	406	3	13,987	100
Kisarawe	2,109	11	13,350	72	233	1	0	0	2,616	14	233	1	0	0	95	1	18,637	100
Mkuranga	2,309	7	21,749	63	566	2	0	0	5,113	15	4,515	13	0	0	413	1	34,665	100
Rufiji	8,667	28	15,848	51	999	3	71	0	3,573	12	1,347	4	0	0	400	1	30,906	100
Mafia	398	7	3,707	63	95	2	22	0	716	12	846	14	0	0	118	2	5,903	100
Total	20,942	15	87,938	62	2,498	2	312	0	14,768	10	11,991	8	85	0	2,671	2	141,204	100

12.1.23 ACCESS TO INPUTS: Number of Agricultural Households and Reason for NOT Using Improved Seeds by District, 2002/03 Agricultural Year

District	Not Available		Price Too High		No Money to Buy		Too Much Labour Required		Do not Know How to Use		Input is of No Use		Locally Produced by Household		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	6,305	20	20,710	66	679	2	188	1	787	3	1,500	5	98	0	938	3	31,205	100
Kibaha	1,577	15	7,545	71	0	0	42	0	122	1	803	8	37	0	487	5	10,614	100
Kisarawe	4,114	30	9,076	65	48	0	0	0	225	2	362	3	46	0	45	0	13,915	100
Mkuranga	7,757	26	18,229	62	562	2	0	0	1,601	5	932	3	149	1	285	1	29,514	100
Rufiji	11,411	38	14,947	50	572	2	80	0	1,419	5	893	3	58	0	318	1	29,698	100
Mafia	2,101	38	2,748	50	96	2	46	1	141	3	212	4	0	0	118	2	5,462	100
Total	33,266	28	73,254	61	1,957	2	356	0	4,295	4	4,702	4	388	0	2,191	2	120,409	100

Table 12.1.24 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Chemical Fertilizers by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	565	67	174	21	0	0	100	12	840	100
Kibaha	31	7	353	83	41	10	0	0	424	100
Kisarawe	91	40	138	60	0	0	0	0	229	100
Mkuranga	605	30	1,278	62	163	8	0	0	2,046	100
Mafia	118	45	99	38	46	17	0	0	262	100
Total	1,410	37	2,041	54	250	7	100	3	3,801	100
Total	565	23	1,741	70	161	6	13	1	2,480	100

12.1.25 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Farm Yard Manure by District, 2002/03 Agricultural Year

District	Excellent		Good		Average		Poor		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	690	42	803	49	158	10	0	0	1,651	100
Kibaha	255	23	698	64	103	9	41	4	1,097	100
Kisarawe	328	37	465	52	95	11	0	0	889	100
Mkuranga	929	26	2,254	64	328	9	0	0	3,511	100
Rufiji	84	15	467	85	0	0	0	0	551	100
Mafia	546	34	876	54	191	12	0	0	1,613	100
Total	2,831	30	5,564	60	875	9	41	0	9,311	100

12.1.26 ACCESS TO INPUTS: Number of Agricultural Households and Quality of COMPOST Manure by District, 2002/03

District	Excellent		Good		Average		Poor		Does not Work		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	1,266	56	646	29	179	8	82	4	82	4	2,255	100
Kibaha	0	0	450	63	264	37	0	0	0	0	714	100
Kisarawe	288	32	465	52	143	16	0	0	0	0	896	100
Mkuranga	974	20	1,510	31	2,252	47	85	2	0	0	4,820	100
Rufiji	1,073	50	1,008	47	72	3	0	0	0	0	2,153	100
Mafia	204	35	327	57	46	8	0	0	0	0	578	100
Total	3,806	33	4,406	39	2,957	26	166	1	82	1	11,417	100

**12.1.27 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Insecticides/Fungicides by District, 2002/03
Agricultural Year**

District	Excellent		Good		Average		Poor		Does not Work		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	632	31	898	44	394	19	0	0	99	5	2,023	100
Kibaha	81	4	1,735	92	73	4	0	0	0	0	1,888	100
Kisarawe	376	45	267	32	142	17	48	6	0	0	833	100
Mkuranga	2,187	22	5,729	57	1,515	15	401	4	157	2	9,990	100
Rufiji	1,088	50	867	40	146	7	85	4	0	0	2,185	100
Mafia	60	60	20	20	20	20	0	0	0	0	100	100
Total	4,424	26	9,516	56	2,289	13	534	3	256	2	17,019	100

**12.1.28 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Herbicides by District, 2002/03
Agricultural Year**

District	Excellent		Good		Total	
	Number	%	Number	%	Number	%
Bagamoyo	0	0	183	100	183	100
Kibaha	0	0	42	100	42	100
Mkuranga	79	100	0	0	79	100
Mafia	22	100	0	0	22	100
Total	101	31	224	69	326	100

**12.1.29 ACCESS TO INPUTS: Number of Agricultural Households and Quality of Improved Seeds by District, 2002/03
Agricultural Year**

District	Excellent		Good		Average		Poor		Does not Work		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	2,375	39	2,371	39	1,254	21	0	0	85	1	6,085	100
Kibaha	366	11	2,765	81	266	8	0	0	18	1	3,415	100
Kisarawe	1,350	29	2,990	63	383	8	0	0	0	0	4,722	100
Mkuranga	1,883	36	3,008	58	339	6	0	0	0	0	5,230	100
Rufiji	247	20	887	73	0	0	0	0	74	6	1,207	100
Mafia	316	68	102	22	23	5	21	5	0	0	462	100
Total	6,536	31	12,123	57	2,265	11	21	0	176	1	21,121	100

**12.1.30 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Chemical Fertilizer Next Year by District, 2002/03
Agricultural Year**

District	Agricultural Households With Plan to use Chemical Fertilizers Next Year		Agricultural Households With NO Plan to use Next Year Chemical Fertilizers		Total	
	Number	%	Number	%	Number	%
Bagamoyo	6,165	17	31,124	83	37,290	100
Kibaha	3,417	24	10,611	76	14,029	100
Kisarawe	2,451	13	16,186	87	18,637	100
Mkuranga	5,355	15	29,389	85	34,744	100
Rufiji	1,668	5	29,237	95	30,906	100
Mafia	1,635	28	4,289	72	5,924	100
Total	20,692	15	120,838	85	141,530	100

12.1.31 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use Farm Yard Manure Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With a Plan to Use Next Year Farm Yard Manure		With NO Plan to Use Next Year Farm Yard Manure		Total
	Number	%	Number	%	
Bagamoyo	8,236	22	29,155	78	37,391
Kibaha	4,343	31	9,717	69	14,060
Kisarawe	2,260	12	16,377	88	18,637
Mkuranga	9,499	27	25,169	73	34,668
Rufiji	1,837	6	29,151	94	30,988
Mafia	2,416	41	3,509	59	5,924
Total	28,591	20	113,078	80	141,669

12.1.32 ACCESS TO INPUTS: Number of Agricultural Households With Plan to use COMPOST Manure Next Year by District, 2002/03 Agricultural Year

District	With a Plan to Use COMPOST Manure Next Year		Households With NO Plan to use		Total
	Number	%	Number	%	
Bagamoyo	7,756	21	29,534	79	37,290
Kibaha	3,358	24	10,671	76	14,029
Kisarawe	1,921	10	16,716	90	18,637
Mkuranga	11,986	34	22,833	66	34,820
Rufiji	1,310	4	29,596	96	30,906
Mafia	1,197	20	4,728	80	5,924
Total	27,528	19	114,077	81	141,605

12.1.33 ACCESS TO INPUTS: Number of Agricultural Households With a Plan to Use Insecticides/Fungicides Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With Plan to use Pesticides/Fungicides Next Year		Agricultural Households With NO Plan to use Pesticides/Fungicides Next Year		Total
	Number	%	Number	%	
Bagamoyo	10,540	28	26,850	72	37,390
Kibaha	5,054	36	8,975	64	14,029
Kisarawe	3,649	20	14,988	80	18,637
Mkuranga	16,392	47	18,352	53	34,744
Rufiji	5,813	19	25,011	81	30,823
Mafia	900	15	5,024	85	5,924
Total	42,349	30	99,199	70	141,548

12.1.34 ACCESS TO INPUTS: Number of Agricultural Households With a Plan to Use Herbicides Next Year by District, 2002/03 Agricultural Year

District	Agricultural Households With a Plan to Use Herbicides Next Year		Households With NO Plan to use Herbicides Next Year		Total
	Number	%	Number	%	
Bagamoyo	5,940	16	31,349	84	37,290
Kibaha	1,447	10	12,582	90	14,029
Kisarawe	1,865	10	16,772	90	18,637
Mkuranga	2,737	8	32,007	92	34,744
Rufiji	694	2	30,211	98	30,906
Mafia	799	13	5,125	87	5,924
Total	13,482	10	128,047	90	141,530

Table 12.1.35 ACCESS TO INPUTS: Number of Agricultural Households with Plan to Use Improved Seeds Next Year by District, 2002/03 Agricultural Year

District	With a Plan to Use Improved Seeds Next Year		With NO Plan to Use Improved Seeds Next Year		Total
	Number	%	Number	%	
Bagamoyo	17,411	47	19,879	53	37,290
Kibaha	7,950	57	6,079	43	14,029
Kisarawe	7,657	41	10,980	59	18,637
Mkuranga	11,760	34	22,984	66	34,744
Rufiji	4,812	16	26,094	84	30,906
Mafia	1,844	31	4,080	69	5,924
Total	51,434	36	90,096	64	141,530

AGRICULTURE CREDIT

13.1a AGRICULTURE CREDIT: Number of Agriculture Households Receiving Credit by Sex of Household Head and District During the 2002/03 Agriculture Year

District	Male		Female		Total
	Number	%	Number	%	
Bagamoyo	98	100	0	0	98
Mkuranga	1,339	89	160	11	1,499
Rufiji	83	100	0	0	83
Total	1,521	90	160	10	1,681

13.1b AGRICULTURE CREDIT: Number of Households Receiving Credit By Main Source of Credit and District; 2002/03 Agriculture Year.

District	Source of Credit					Total
	Family, Friend and Relative	Commercial Bank	Saving & Credit Society	Trader / Trade Store	Religious Organisation / NGO / Project	
Bagamoyo	0	98	0	0	0	98
Mkuranga	80	0	1,094	162	163	1,499
Rufiji	0	0	0	0	83	83
Total	80	98	1,094	162	247	1,681

13.2a AGRICULTURE CREDIT: Number of Households Reporting the Main Reasons for Not Using Credit by District During the 2002/03 Agriculture Year

District	Not needed	Not available	Did not want to go into debt	Interest rate/cost too high	Did not know how to get credit	Difficult bureaucracy procedure	Credit granted too late	Other	Don't know about credit	Total
Bagamoyo	1,139	8,064	3,848	764	14,888	1,474	0	102	6,913	37,192
Kibaha	704	4,575	1,485	475	4,261	318	413	84	1,715	14,029
Kisarawe	95	5,578	1,418	684	6,044	237	0	0	4,580	18,637
Mkuranga	1,643	3,058	3,090	1,097	17,279	1,367	85	0	5,625	33,245
Rufiji	626	7,233	1,625	147	15,323	592	75	154	5,046	30,822
Mafia	429	753	338	243	2,835	239	47	20	1,022	5,924
Total	4,635	29,261	11,805	3,410	60,631	4,227	620	361	24,900	139,849

13.2b AGRICULTURE CREDIT: Number of Credits Received by Main Purpose of Credit and District During the 2002/03 Agriculture Year

District	Credit Use								Total Credits
	Labour	Seeds	Fertilizers	Agro-chemicals	Tools / Equipment	Irrigation Structures	Livestock	Other	
Bagamoyo	0	0	0	0	0	98	98	0	196
Mkuranga	478	400	554	1,424	400	400	400	400	4,455
Rufiji	0	0	0	0	0	0	0	83	83
Total Credits	478	400	554	1,424	400	498	498	483	4,734

TREE FARMING AND AGROFORESTRY

14.1 ON FARM TREE PLANTING: Number of Planted Trees by Specie and District During the 2002/03 Agriculture Year, Pwani Region

District	Senna Spp	Gravellis	Acacia Spp	Eucalyptus Spp	Cyprus Spp	Melicia excelsa	Casurina Equisetifilia	Tectona Grandis	Terminalia Catapa	Terminalia Ivorensis	Leucena Spp
Bagamoyo	1,292	13,666	.	613	.	.	.	24,471	.	.	.
Kibaha	68,155	164	24,199	6,142	.	122,769	2,017	.	.	.	42
Kisarawe	2,461	237	280	1,184	9,520	95	.	.	.	947	1,895
Mkuranga	79	414	.	7,631	2,173	1,078
Rufiji	1,260	34,697	.	.	2,519
Mafia	240	.	.	240	.	.
Total	71,987	14,480	24,479	15,570	11,693	124,182	3,276	59,168	240	947	4,455
%	20.5	4.1	7.0	4.4	3.3	35.3	0.9	16.8	0.1	0.3	1.3

cont. 14.1 ON FARM TREE PLANTING: Number of Planted Trees by Specie and District During the 2002/03 Agriculture Year, Pwani Region

District	Syzgium Spp	Azadritacht a Spp	Moringa Spp	Saraca Spp	Total
Bagamoyo	91	565	.	.	40,698
Kibaha	41	2,207	1,064	.	226,797
Kisarawe	.	950	9,473	142	27,184
Mkuranga	79	2,724	.	335	14,512
Rufiji	.	963	.	.	39,439
Mafia	.	.	2,399	.	2,879
Total	211	7,409	12,936	477	351,509
%	0.1	2.1	3.7	0.1	100.0

14.2 TREE FARMING: Number of Households with Planted Trees on Their Land and Number of Trees by Planting Location and District During the 2002/03 Agriculture Year, Pwani Region

	Mostly on Field / Plot Boundaries		Mostly Scattered in Field		Mostly in Plantation / Coppice		Total	
	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of Households	Number of Trees	Number of Households	Number of Trees
Bagamoyo	656	40,698	0	.	0	.	656	40,698
Kibaha	71	64,006	231	130,526	20	32,265	322	226,797
Kisarawe	275	2,927	133	337	95	23,920	503	27,184
Mkuranga	714	4,309	466	10,056	0	.	1,181	14,365
Rufiji	310	10,700	0	.	151	28,739	461	39,439
Mafia	20	240	0	.	24	2,639	44	2,879
Total	2,045	122,881	831	140,919	290	87,563	3,166	351,362

14.3 ON FARM TREE PLANTING: Number of Responses by Main Use of Planted Trees and District for the 2002/03 agriculture year, Pwani Region

District	Main Use						Total
	Planks / Timber	Poles	Fuel for Wood	Shade	Medicinal	Other	
Bagamoyo	8,931	1,148	9,152	1,595	144	0	20,971
Kibaha	3,685	425	845	945	0	504	6,403
Kisarawe	3,305	2,002	424	834	0	87	6,653
Mkuranga	0	0	0	77	0	0	77
Rufiji	106	0	106	318	0	0	530
Mafia	147	98	0	0	49	97	391
Total	16,214	3,785	10,527	3,870	193	735	35,324

14.4 TREE FARMING: Number of Agriculture Households Classified by Distance to Community Planted Forest (Km) By District During the 2002/03 Agriculture Year, Pwani Region

District	Distance to Community Planted Forest (km)					
	1-9	1-19	20-29	30-39	40-49	60+
Bagamoyo	89	182	0	0	0	0
Kibaha	0	0	15	0	0	0
Kisarawe	47	0	0	47	514	0
Mkuranga	394	208	85	0	0	299
Rufiji	420	0	0	0	0	0
Mafia	0	0	22	23	0	11
Total	949	390	121	70	514	309
%	40.3	16.6	5.1	3.0	21.8	13.1

14.5 ON FARM TREE PLANTING: Number of responses by Second use of planted trees and District for the 2002/03 agriculture year, Pwani Region

District	Second Use							Total
	Planks / Timber	Poles	Charcoal	Fuel for Wood	Shade	Medicinal	Other	
Bagamoyo	0	0	0	6	1	1	1	9
Kibaha	2	4	0	10	2	1	0	19
Kisarawe	2	5	0	7	0	2	1	17
Mkuranga	1	3	1	6	4	3	1	19
Rufiji	0	2	0	2	0	1	0	5
Mafia	1	0	0	0	1	0	1	3
Total	6	14	1	31	8	8	4	72

CROP EXTENSION

15.1 CROP EXTENSION: Number of Agriculture Households Receiving Extension Messages by District During the 2002/03 Agriculture Year, Pwani Region

	Households Receiving Extension Advice		Households Not Receiving Extension Advice		Total Number of Households
	Number	%	Number	%	
Bagamoyo	11,835	31.7	25,454	68.3	37,290
Kibaha	6,049	43.1	7,980	56.9	14,029
Kisarawe	11,435	61.4	7,202	38.6	18,637
Mkuranga	9,560	27.5	25,184	72.5	34,744
Rufiji	7,603	24.6	23,303	75.4	30,906
Mafia	245	4.1	5,680	95.9	5,924
Total	46,727	33.0	94,803	67.0	141,530

15.2 CROP EXTENSION: Number of Households By Quality of Extension Services and District During the 2002/03 Agricultural Year, Pwani Region

	Very Good		Good		Average		Poor		No Good		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	2,576	22.3	6,338	54.8	2,382	20.6	0	0.0	262	2.3	11,558	100.0
Kibaha	256	4.2	4,085	67.5	1,501	24.8	164	2.7	42	0.7	6,049	100.0
Kisarawe	617	5.4	9,354	82.2	1,415	12.4	0	0.0	0	0.0	11,386	100.0
Mkuranga	1,514	15.8	6,906	72.2	1,095	11.5	45	0.5	0	0.0	9,560	100.0
Rufiji	2,496	33.2	3,623	48.1	1,175	15.6	148	2.0	85	1.1	7,527	100.0
Mafia	15	6.3	192	78.5	37	15.2	0	0.0	0	0.0	245	100.0
Total	7,474	16.1	30,499	65.8	7,605	16.4	357	0.8	390	0.8	46,325	100.0

15.3 EXTENSION MESSAGES: Number of Agriculture Households By Source of Crop Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

	Government		NGO / Development Project		Cooperative		Large Scale Farm		Other		Not applicable		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	11,256	95.9	0	0.0	197	1.7	286	2.4	0	0.0	0	0.0	11,739	100.0
Kibaha	5,711	95.0	42	0.7	0	0.0	220	3.7	42	0.7	0	0.0	6,015	100.0
Kisarawe	11,245	98.3	143	1.2	0	0.0	0	0.0	0	0.0	47	0.4	11,435	100.0
Mkuranga	8,730	94.5	0	0.0	160	1.7	249	2.7	98	1.1	0	0.0	9,237	100.0
Rufiji	7,541	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7,541	100.0
Mafia	186	81.5	42	18.5	0	0.0	0	0.0	0	0.0	0	0.0	228	100.0
Total	44,669	96.7	227	0.5	357	0.8	755	1.6	140	0.3	47	0.1	46,195	100.0

15.4 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Plant Spacing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Spacing							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Bagamoyo	10,852	0	197	286	0	0	11,335	37,290	30.4
Kibaha	5,631	42	0	178	42	0	5,893	14,029	42.0
Kisarawe	11,061	143	0	0	0	47	11,250	18,637	60.4
Mkuranga	8,206	0	160	249	98	0	8,713	34,744	25.1
Rufiji	7,467	0	0	0	0	0	7,467	30,906	24.2
Mafia	154	22	0	0	0	0	176	5,924	3.0
Total	43,371	207	357	713	140	47	44,834	141,530	31.7

15.5 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agrochemicals by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Use of Agrochemicals							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Bagamoyo	7,009	87	98	100	0	0	7,294	37,290	19.6
Kibaha	3,845	84	0	88	0	131	4,149	14,029	29.6
Kisarawe	4,601	183	0	0	0	48	4,832	18,637	25.9
Mkuranga	6,914	53	157	165	53	0	7,342	34,744	21.1
Rufiji	4,765	0	0	0	0	157	4,922	30,906	15.9
Mafia	49	20	0	0	0	42	111	5,924	1.9
Total	27,184	427	255	353	53	378	28,649	141,530	20.2

15.6 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Erosion Control by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Erosion Control						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Not applicable	Total		
Bagamoyo	4,441	0	0	85	93	4,619	37,290	12.4
Kibaha	2,148	83	20	58	0	2,309	14,029	16.5
Kisarawe	2,012	474	0	0	95	2,582	18,637	13.9
Mkuranga	3,208	85	0	0	227	3,520	34,744	10.1
Rufiji	3,337	159	0	0	85	3,582	30,906	11.6
Mafia	9	22	0	0	20	51	5,924	0.9
Total	15,155	823	20	143	521	16,663	141,530	11.8

15.7 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Organic Fertilizer Use by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Organic Fertilizer Use							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Bagamoyo	6,098	0	98	0	0	146	6,342	37,290	17.0
Kibaha	3,398	76	0	130	0	62	3,666	14,029	26.1
Kisarawe	3,541	505	0	0	0	95	4,141	18,637	22.2
Mkuranga	5,929	85	160	147	0	81	6,401	34,744	18.4
Rufiji	4,128	0	0	0	0	85	4,214	30,906	13.6
Mafia	170	22	0	0	20	0	212	5,924	3.6
Total	23,265	688	258	276	20	469	24,976	141,530	17.6

15.8 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Inorganic Fertilizer Use by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Inorganic Fertilizer Use							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Bagamoyo	5,649	0	98	199	0	0	5,946	37,290	15.9
Kibaha	2,641	42	0	88	27	135	2,933	14,029	20.9
Kisarawe	2,512	131	47	0	0	231	2,922	18,637	15.7
Mkuranga	4,655	0	0	0	0	154	4,809	34,744	13.8
Rufiji	3,831	0	0	0	0	157	3,988	30,906	12.9
Mafia	69	0	0	0	0	20	89	5,924	1.5
Total	19,358	173	145	287	27	698	20,687	141,530	14.6

15.9 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Improved Seeds by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Use of Improved Seed							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Bagamoyo	8,146	0	197	85	0	100	8,527	37,290	22.9
Kibaha	4,678	124	0	79	27	274	5,183	14,029	36.9
Kisarawe	7,216	994	0	89	0	225	8,525	18,637	45.7
Mkuranga	5,313	0	79	0	0	81	5,473	34,744	15.8
Rufiji	5,199	0	0	0	0	85	5,284	30,906	17.1
Mafia	75	0	0	0	20	41	135	5,924	2.3
Total	30,626	1,119	276	254	47	806	33,127	141,530	23.4

15.10 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Mechanization/LST by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Mechanisation / LST							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Bagamoyo	5,490	0	0	85	0	227	5,803	37,290	15.9
Kibaha	2,124	40	0	0	0	192	2,356	14,029	20.9
Kisarawe	562	531	47	0	0	0	1,140	18,637	15.7
Mkuranga	608	0	0	0	0	81	689	34,744	13.8
Rufiji	3,521	0	0	0	72	146	3,739	30,906	12.9
Mafia	0	0	0	0	0	20	20	5,924	1.5
Total	12,306	571	47	85	72	666	13,747	141,530	14.6

15.11 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Irrigation Technology by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Irrigation Technology						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Not applicable	Total		
Bagamoyo	3,061	99	98	98	282	3,638	37,290	9.8
Kibaha	2,346	110	0	80	58	2,594	14,029	18.5
Kisarawe	1,438	0	47	0	0	1,485	18,637	8.0
Mkuranga	4,298	0	0	0	0	4,298	34,744	12.4
Rufiji	3,044	72	0	0	0	3,116	30,906	10.1
Mafia	0	0	0	0	20	20	5,924	0.3
Total	14,187	281	145	178	360	15,151	141,530	10.7

15.12 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Crop Storage by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Crop Storage							Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Other	Not applicable	Total		
Bagamoyo	6,670	0	0	0	82	345	7,096	37,290	19.0
Kibaha	2,841	60	0	35	0	112	3,048	14,029	21.7
Kisarawe	4,238	48	0	0	0	46	4,332	18,637	23.2
Mkuranga	3,640	0	79	0	0	73	3,793	34,744	10.9
Rufiji	5,002	0	0	0	0	0	5,002	30,906	16.2
Mafia	24	0	0	0	0	20	44	5,924	0.7
Total	22,413	108	79	35	82	596	23,314	141,530	16.5

15.13 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Vermin Control by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Vermin Control					Total Number of Households	% of total number of households
	Government	NGO / Development Project	Large Scale Farm	Not applicable	Total		
Bagamoyo	7,341	0	435	0	7,777	37,290	20.9
Kibaha	4,637	15	98	239	4,989	14,029	35.6
Kisarawe	8,292	48	0	92	8,432	18,637	45.2
Mkuranga	5,059	80	205	0	5,345	34,744	15.4
Rufiji	4,987	0	0	74	5,061	30,906	16.4
Mafia	45	0	0	20	65	5,924	1.1
Total	30,363	143	739	424	31,669	141,530	22.4

15.14 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agro-processing by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Agro-progressing					Total Number of Households	% of total number of households
	Government	NGO / Development Project	Other	Not applicable	Total		
Bagamoyo	2,829	100	85	274	3,288	37,290	8.8
Kibaha	1,703	27	0	0	1,730	14,029	12.3
Kisarawe	2,634	740	0	0	3,374	18,637	18.1
Mkuranga	3,688	0	85	238	4,011	34,744	11.5
Rufiji	3,367	0	0	0	3,367	30,906	10.9
Mafia	0	0	0	20	20	5,924	0.3
Total	14,221	867	170	532	15,789	141,530	11.2

15.15 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Agro-forestry by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Agro-forestry						Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Large Scale Farm	Not applicable	Total		
Bagamoyo	1,624	82	0	0	0	1,706	37,290	4.6
Kibaha	2,186	200	20	35	0	2,441	14,029	17.4
Kisarawe	2,190	231	0	0	47	2,468	18,637	13.2
Mkuranga	3,644	1,220	160	0	73	5,097	34,744	14.7
Rufiji	2,656	0	0	0	0	2,656	30,906	8.6
Mafia	24	0	0	0	20	44	5,924	0.7
Total	12,324	1,733	180	35	141	14,412	141,530	10.2

15.16 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Bee keeping by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Beekeeping				Total Number of Households	% of total number of households
	Government	NGO / Development Project	Not applicable	Total		
Bagamoyo	223	96	93	412	37,290	1.1
Kibaha	252	47	23	322	14,029	2.3
Kisarawe	228	48	0	276	18,637	1.5
Mkuranga	147	132	79	357	34,744	1.0
Rufiji	2,511	62	0	2,573	30,906	8.3
Mafia	0	0	20	20	5,924	0.3
Total	3,361	385	215	3,960	141,530	2.8

15.17 CROP EXTENSION: Number of Agriculture Households Receiving Advice on Use of Fish Farming by Source of Extension Messages and District During the 2002/03 Agriculture Year, Pwani Region

District	Fish Farming					Total Number of Households	% of total number of households
	Government	NGO / Development Project	Cooperative	Not applicable	Total		
Bagamoyo	223	96	0	93	412	37,290	1.1
Kibaha	142	62	0	0	204	14,029	1.5
Kisarawe	229	48	47	0	324	18,637	1.7
Mkuranga	302	0	0	0	302	34,744	0.9
Rufiji	2,131	0	0	0	2,131	30,906	6.9
Mafia	0	0	0	20	20	5,924	0.3
Total	3,027	206	47	113	3,392	141,530	2.4

15.18 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 1) During the 2002/03 Agriculture Year, Pwani Region

District	Spacing			Use of Agrochemicals			Erosion Control		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Bagamoyo	11,335	10,883	96	6,942	2,534	37	4,106	1,742	42
Kibaha	5,818	5,007	86	4,056	1,363	34	2,078	593	29
Kisarawe	11,250	10,153	90	4,695	1,259	27	2,344	656	28
Mkuranga	8,713	7,937	91	7,342	5,004	68	3,212	965	30
Rufiji	7,386	6,223	84	4,628	1,039	22	3,135	290	9
Mafia	176	119	68	69	20	29	31	31	100
Total	44,677	40,322	90	27,732	11,219	40	14,906	4,278	29

15.19 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 2) During the 2002/03 Agriculture Year, Pwani Region

District	Organic Fertilizer Use			Inorganic Fertilizer Use			Use of Improved Seed		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Bagamoyo	6,051	1,758	29	5,549	956	17	8,129	2,286	28
Kibaha	3,589	870	24	2,765	572	21	5,177	2,211	43
Kisarawe	3,950	1,199	30	2,459	234	10	8,521	4,423	52
Mkuranga	6,401	4,030	63	4,644	1,325	29	5,452	3,317	61
Rufiji	3,841	232	6	3,841	83	2	5,209	534	10
Mafia	208	184	89	69	28	40	95	25	26
Total	24,040	8,272	34	19,327	3,197	17	32,583	12,797	39

15.20 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 3) During the 2002/03 Agriculture Year, Pwani Region

District	Mechanisation / LST			Irrigation Technology			Crop Storage		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Bagamoyo	5,462	839	15	2,381	1,369	58	6,999	4,892	70
Kibaha	2,184	468	21	2,287	826	36	2,993	1,517	51
Kisarawe	806	0	0	1,357	329	24	4,337	2,519	58
Mkuranga	286	0	0	4,217	1,534	36	3,871	386	10
Rufiji	3,516	391	11	2,422	864	36	5,149	1,844	36
Mafia	0	0	0	0	0	0	24	24	100
Total	12,254	1,697	14	12,663	4,924	39	23,372	11,182	48

15.21 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 4) During the 2002/03 Agriculture Year, Pwani Region

District	Vermin Control			Agro-progressing			Agro-forestry		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Bagamoyo	7,667	5,932	77	2,604	2,625	101	1,511	1,166	77
Kibaha	4,962	3,129	63	1,504	1,006	67	2,367	905	38
Kisarawe	8,432	7,966	94	3,334	2,799	84	2,372	902	38
Mkuranga	5,207	4,897	94	3,773	1,683	45	5,097	2,291	45
Rufiji	5,065	2,231	44	3,065	1,154	38	2,145	387	18
Mafia	45	45	100	0	0	0	0	0	0
Total	31,379	24,200	77	14,280	9,268	65	13,492	5,650	42

15.22 CROP EXTENSION: Number of Agriculture Households Receiving and Adopting Extension Messages by Type of Message and District (Part 5) During the 2002/03 Agriculture Year, Pwani Region

District	Beekeeping			Fish Farming			Other		
	Received	Adopted	%	Received	Adopted	%	Received	Adopted	%
Bagamoyo	177	372	0	177	270	0	0	95	0
Kibaha	200	124	62	102	0	0	1,094	1,090	100
Kisarawe	182	39	22	142	87	61	179	95	53
Mkuranga	279	53	19	147	0	0	208	132	64
Rufiji	2,501	62	2	2,059	218	11	927	80	9
Mafia	0	0	0	0	0	0	0	0	0
Total	3,338	650	19	2,627	575	22	2,408	1,492	62

ANIMAL CONTRIBUTION TO CROP PRODUCTION

17.1 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Number of Agriculture Households Using Draft Animal to cultivate Land by District During 2002/03 Agriculture Year, Pwani Region

	Households Using Draft Animals		Household Not Using Draft Animals		Total households
	Number	%	Number	%	
Bagamoyo	0	0	37,290	100	37,290
Kibaha	0	0	14,029	100	14,029
Kisarawe	0	0	18,637	100	18,637
Mkuranga	0	0	34,744	100	34,744
Rufiji	0	0	30,906	100	30,906
Mafia	46	1	5,878	99	5,924
Total	46	0	141,484	100	141,530

17.2 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Type of Draft by Number Owned, Used and Area Cultivated (Hectares) By District during 2002/03 Agriculture Year, Pwani Region

District	Type of Craft					
	Oxen			Bulls		
	Number Owned	Number Used	Area Cultivated (Hectares)	Number Owned	Number Used	Area Cultivated (Hectares)
Mafia	92	92	19	92	92	19
Total	92	92	19	92	92	19

17.2 ANIMAL CONTRIBUTION TO CROP PRODUCTION: Type of Draft By Number Owned, Used and Area Cultivated (Hectares) By District during 2002/03 Agriculture Year, Pwani Region

District	Type of Draft					
	Oxen			Total		
	Number Owned	Number Used	Area Cultivated (acres)	Number Owned	Number Used	Area Cultivated (acres)
Mafia	92	92	45.9	92	92	45.9
Total	92	92	45.9	92	92	45.9

17.3 ANIMAL CONTRIBUTION TO CROPS: Number of Crop Growing Households Using Organic Fertilizer by District During 2002/03 Agriculture Year, Pwani

District	Did you apply organic fertilizer during 2002/03?					
	Using Organic Fertilizer		Not Using Organic Fertilizer		Total	
	Number	%	Number	%	Number	%
Bagamoyo	3,524	22.2	33,234	26.7	36,758	26.2
Kibaha	1,040	6.5	12,834	10.3	13,874	9.9
Kisarawe	1,361	8.6	17,229	13.9	18,589	13.3
Mkuranga	5,847	36.8	28,816	23.2	34,663	24.7
Rufiji	2,352	14.8	28,142	22.6	30,494	21.7
Mafia	1,758	11.1	4,076	3.3	5,834	4.2
Total	15,882	100.0	124,331	100.0	140,213	100.0

**17.4 ANIMAL CONTRIBUTION TO CROPS: Area of Farm Yard Manure and Compost
Application by District during 2002/03 Agriculture Year, Pwani Region**

District	Farm Yard Manure Area Applied		Compost Area Applied		Total Area applied with Organic Fertilizers	
	Area (Ha)	%	Area (Ha)	%	Area (Ha)	%
Bagamoyo	1,389	29.1	2,982	34.9	4,371	32.8
Kibaha	923	19.4	204	2.4	1,127	8.5
Kisarawe	421	8.8	449	5.2	869	6.5
Mkuranga	1,098	23.0	4,621	54.0	5,719	42.9
Rufiji	183	3.8	171	2.0	355	2.7
Mafia	757	15.9	127	1.5	885	6.6
Total	4,772	100.0	8,553	100.0	13,326	100.0

CATTLE PRODUCTION

**18.1 CATTLE PRODUCTION: Total Number Households Rearing Cattle by District during 2002/03
Agriculture Year, Pwani Region**

District	Households Rearing Cattle		Households Not Rearing Cattle		Total Agriculture Households	Total livestock Keeping Households
	Number	%	Number	%		
Bagamoyo	2,132	5.7	35,158	94.3	37,290	5,864
Kibaha	621	4.4	13,408	95.6	14,029	1,053
Kisarawe	475	2.5	18,162	97.5	18,637	992
Mkuranga	144	0.4	34,600	99.6	34,744	493
Rufiji	612	2.0	30,294	98.0	30,906	1,909
Mafia	1,585	26.7	4,340	73.3	5,924	1,869
Total	5,568	3.9	135,961	96.1	141,530	12,180

18.2 CATTLE PRODUCTION: Number of Cattle By Type and District as of 1st October, 2003

District	Indigenous			Improved Beef			Improved Dairy			Total Cattle		
	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	%	Number of Households	Number of Cattle	%
Bagamoyo	2,132	88,405	94	0	0	0	507	5,996	6	2,132	94,401	77
Kibaha	265	7,076	77	18	18	0	429	2,051	22	621	9,144	7
Kisarawe	428	2,331	73	0	0	0	95	859	27	475	3,190	3
Mkuranga	60	60	21	0	0	0	144	229	79	144	289	0
Rufiji	460	2,608	74	152	823	23	72	72	2	612	3,503	3
Mafia	1,520	9,880	84	161	299	3	340	1,602	14	1,585	11,781	10
Total	4,864	110,360	90	331	1,140	1	1,588	10,809	9	5,568	122,308	100

18.3 CATTLE PRODUCTION: Number of Households Rearing Cattle, Head of Cattle and Average Head per Household by Herd Size as of 1st October, 2003

Herd Size	Cattle Rearing Households		Heads of Cattle		Average Number Per Household
	Number	%	Number	%	
1-5	2,224	40	6,161	5	3
6-10	907	16	7,176	6	8
11-15	472	8	6,040	5	13
16-20	544	10	9,692	8	18
21-30	228	4	5,625	5	25
31-40	252	5	8,762	7	35
41-50	249	4	11,277	9	45
51-60	102	2	5,315	4	52
61-100	349	6	25,177	21	72
101-150	99	2	12,587	10	127
151+	102	2	23,405	19	229
Total	5568	100	122308	100	22

18.4 CATTLE PRODUCTION: Number of Cattle by Category and Type of Cattle; on 1st October 2003

Category of Cattle	Indigenous Cattle		Improved Beef Cattle		Improved Dairy Cattle		Total	
	Number	%	Number	%	Number	%	Number	%
Bulls	9,617	80.0	526	4.4	1,882	15.7	12,025	9.8
Cows	30,337.0	91.9	284.8	0.9	2,394.6	7.3	33,016.4	27.0
Steers	7,691.4	98.8	24.2	0.3	65.6	0.8	7,781.3	6.4
Heifers	32,788.2	90.7	114.8	0.3	3,232.0	8.9	36,135.1	29.5
Male Calves	12,436.3	89.6	94.9	0.7	1,341.3	9.7	13,872.5	11.3
Female Calves	17,490	89.8	95	0.5	1,893	9.7	19,478	15.9
Total	110,360	90.2	1,140	0.9	10,809	8.8	122,308	100.0

18.5 CATTLE PRODUCTION: Number of Indigenous Cattle By Category and District as on 1st October, 2003

District	Category - Indigenous						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
Bagamoyo	7,760	21,731	6,579	28,753	9,419	14,165	88,405
Kibaha	468	2,306	779	1,406	809	1,309	7,076
Kisarawe	285	714	95	666	334	238	2,331
Mkuranga	.	60	60
Rufiji	429	1,173	.	177	428	401	2,608
Mafia	675	4,354	239	1,787	1,446	1,379	9,880
Total	9,617	30,337	7,691	32,788	12,436	17,490	110,360

18.6 CATTLE PRODUCTION: Number of Improved Beef Cattle By Category and District as on 1st October, 2003

District	Category - Improved Beef Cattle						Total
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	
Bagamoyo
Kibaha	18	18
Kisarawe
Mkuranga
Rufiji	463	216	.	.	72	72	823
Mafia	45	69	24	115	23	23	299
Total	526	285	24	115	95	95	1,140

18.7 CATTLE PRODUCTION: Number of Improved Dairy Cattle By Category and District as on 1st October, 2003

District	Category - Improved Dairy Cattle						
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Bagamoyo	1,427	702	.	2,240	707	920	5,996
Kibaha	271	758	18	367	238	399	2,051
Kisarawe	.	382	.	191	143	143	859
Mkuranga	.	60	.	85	85	.	229
Rufiji	.	.	.	72	.	.	72
Mafia	185	492	48	277	169	431	1,602
Total	1,882	2,395	66	3,232	1,341	1,893	10,809

18.8 CATTLE PRODUCTION: Number of Cattle By Category and District as on 1st October, 2003

District	Total Cattle						
	Bulls	Cows	Steers	Heifers	Male Calves	Female Calves	Total
Bagamoyo	9,186	22,433	6,579	30,993	10,126	15,085	94,401
Kibaha	757	3,064	796	1,773	1,046	1,708	9,144
Kisarawe	285	1,096	95	857	477	380	3,190
Mkuranga	.	120	.	85	85	.	289
Rufiji	892	1,389	.	249	500	473	3,503
Mafia	904	4,915	312	2,179	1,638	1,833	11,781
Total	12,025	33,016	7,781	36,135	13,873	19,478	122,308

GOATS PRODUCTION

19.1 GOAT PRODUCTION: Total Number of Goats by Type and District as on 1st October, 2003

District	Indigenous Goats			Improved for Meat			Improved Dairy			Total Goats		
	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%	Number of Households	Number of Goats	%
Bagamoyo	3,913	67,982	99.3	0		0.0	98	489	0.7	4,011	68,472	69.4
Kibaha	335	4,748	90.9	69	377	7.2	67	101	1.9	403	5,226	5.3
Kisarawe	748	4,847	100.0	0		0.0	0		0.0	748	4,847	4.9
Mkuranga	702	5,545	97.0	0		0.0	169	169	3.0	871	5,714	5.8
Rufiji	1,437	13,406	100.0	0		0.0	0		0.0	1,437	13,406	13.6
Mafia	130	810	86.2	0		0.0	22	130	13.8	152	940	1.0
Total	7,265	97,337	98.7	69	377	0.4	356	890	0.9	7,621	98,604	100.0

19.2 GOAT PRODUCTION: Number of Households Rearing Goats by Herd Size on 1st October, 2003

Herd Size	Goat Rearing Households		Number of Goats		Average Number Per Household
	Number	%	Number	%	
1-4	2,491	33	6,113	6	2
5-9	1,879	25	12,668	13	7
10-14	1,484	19	17,335	18	12
15-19	746	10	13,481	14	18
20-24	155	2	3,407	3	22
30-39	187	2	5,984	6	32
40+	678	9	39,616	40	58
Total	7,621	100	98,604	100	13

19.3 Total Number of Goats by Category and Type of Goat as of 1st October, 2003 and District

Category of Goats	Indigenous Goats		Improved Meat Goats		Improved Dairy Goats		Total	
	Number	%	Number	%	Number	%	Number	%
Billy Goat	13,706	98.1	77	0.6	187	1.3	13,970	14.2
Castrated Goat	4,690	99.4	31	0.6		0.0	4,721	4.8
She Goat	50,501	98.9	192	0.4	379	0.7	51,072	51.8
Male Kid	13,762	98.6	77	0.6	120	0.9	13,958	14.2
She Kid	14,678	98.6		0.0	204	1.4	14,883	15.1
Total	97,337	98.7	377	0.4	890	0.9	98,604	100.0

19.4 Total Number of Indigenous Goat by Category and District as on 1st October, 2003

District	Number of Indigenous Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Bagamoyo	9,416	3,301	34,270	9,952	11,044	67,982
Kibaha	509	371	2,401	732	735	4,748
Kisarawe	611	861	2,198	657	520	4,847
Mkuranga	982		3,075	617	871	5,545
Rufiji	2,091	158	8,046	1,703	1,409	13,406
Mafia	97		512	101	100	810
Total	13,706	4,690	50,501	13,762	14,678	97,337

19.5 GOAT PRODUCTION: Number of Improved Goat for Meat by Category and District as on 1st October, 2003

District	Number of Improved Meat Goats					
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	Total
Bagamoyo						
Kibaha	77	31	192	77		377
Kisarawe						
Mkuranga						
Rufiji						
Mafia						
Total	77	31	192	77		377

19.6 Number of Improved Dairy Goat by Category and District on 1st October, 2003

District	Number of Improved Dairy Goats					Total
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	
Bagamoyo	98	.	196	98	98	489
Kibaha	67	.	34	.	.	101
Kisarawe
Mkuranga	.	.	84	.	85	169
Rufiji
Mafia	22	.	65	22	22	130
Total	187	.	379	120	204	890

19.7 Total Number of Goats by Category and District on 1st October, 2003

District	Total Goat					Total
	Billy Goat	Castrated Goat	She Goat	Male Kid	She Kid	
Bagamoyo	9,514	3,301	34,465	10,050	11,142	68,472
Kibaha	653	401	2,627	809	735	5,226
Kisarawe	611	861	2,198	657	520	4,847
Mkuranga	982	.	3,159	617	955	5,714
Rufiji	2,091	158	8,046	1,703	1,409	13,406
Mafia	118	.	577	122	122	940
Total	13,970	4,721	51,072	13,958	14,883	98,604

SHEEP PRODUCTION

20.1 Total Number of Sheep By Breed and on 1st October 2003

Breed	Number of Indigenous sheep		Number of Improved for Mutton		Total Sheep	
	Number	%	Number	%	Number	%
Ram	3,345	100	0	0	3,345	23
Castrated Sheep	1,361	100	0	0	1,361	8
She Sheep	11,322	100	0	0	11,322	51
Male Lamb	4,416	100	0	0	4,416	10
She Lamb	3,891	100	0	0	3,891	8
Total	24,334	100	0	0	24,334	100

20.2 Number of Households Raising or Managing Sheep by District on 1st October, 2003

District	Households Raising Sheep		Households Not Raising Sheep		Number of Agricultural Households	Total Livestock keeping Households
	Number	%	Number	%		
Bagamoyo	1,087	3	36,202	97	37,290	5,864
Kibaha	77	1	13,952	99	14,029	1,053
Kisarawe	0	0	18,637	100	18,637	992
Mkuranga	53	0	34,691	100	34,744	493
Rufiji	286	1	30,620	99	30,906	1,909
Mafia	0	0	5,924	100	5,924	1,869
Total	1,503	1	140,027	99	141,530	12,180

20.3 Number of Sheep by Type of Sheep and District as 1st October, 2002/03

District	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number	%	Number	%	Number	%
Bagamoyo	21,754	100	0	0	21,754	89
Kibaha	719	100	0	0	719	3
Mkuranga	369	100	0	0	369	2
Rufiji	1,492	100	0	0	1,492	6
Total	24,334	100	0	0	24,334	100

20.4 Number of Households and Heads of Sheep by Herd Size on 1st October 2003

Herd Size	Number of Households	%	Number of Sheep	%	Average Number Per Household
1-4	434	29	1,474	6	3
5-9	483	32	3,032	12	6
10-14	197	13	2,477	10	13
15-19	99	7	1,487	6	15
25-29	102	7	2,555	11	25
40+	187	12	13,309	55	71
Total	1,503	100	24,334	100	16

20.5 Average Number of Sheep by Type of Sheep and District on 1st October 2003, Pwani Region

District	Number of Indigenous		Number of Improved for Mutton		Total Sheep	
	Number of Households	Average sheep	Number of Households	Average sheep	Number of Households	Average sheep
Bagamoyo	205	4	0	0	205	4
Kibaha						
Kisarawe						
Mkuranga						
Rufiji	0	0	0	0	0	0
Mafia	80	5	0	0	80	5
Total	284	5	0	3	284	5

20.6 Total Number of Indigenous Sheep by Sheep Type and District on 1st October 2003

District	Number of Indigenous Sheep					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Bagamoyo	266	17	448	97	58	886
Kibaha						
Kisarawe						
Mkuranga						
Rufiji						
Mafia	35	83	208	33	45	404
Total	300	100	656	130	103	1,290

20.7 Total Number of Improved Mutton Sheep by Type and District on 1st October 2003

District	Number of Improved for Mutton					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Bagamoyo	0	0	0	0	0	0
Kibaha	0	0	0	0	0	0
Kisarawe	0	0	0	0	0	0
Mkuranga	0	0	0	0	0	0
Rufiji	0	0	0	0	0	0
Mafia	0	0	0	0	0	0
Total	0	0	0	0	0	0

20.8 Total Number of Sheep by Sheep Type and District on 1st October 2003

District	Total Sheep					
	Ram	Castrated Sheep	She Sheep	Male Lamb	She Lamb	Total
Bagamoyo	2,523	1,361	9,833	4,257	3,779	21,754
Kibaha	74		459	74	112	719
Mkuranga	158		211			369
Rufiji	590		818	84		1,492
Total	3,345	1,361	11,322	4,416	3,891	24,334

PIGS PRODUCTION

21.1 Number of Households and Pigs by Herd Size on 1st October 2003

Herd Size	Pig Rearing Households		Heads of Pigs		Average Number Per Household
	Number	%	Number	%	
1-4	121	34	317	9	3
5-9	185	52	1,367	37	7
40+	47	13	1,989	54	42
Total	353	100	3,673	100	10

21.2 Number of Households and Pigs by District on 1st October 2003

District	Number of Households	Number of Pigs	Average Number Per Households
Bagamoyo	98	294	3
Kibaha	76	392	5
Kisarawe	95	2,226	24
Mkuranga	85	761	9
Total	353	3,673	10

21.3 Number of Pigs by Type and District on 1st October, 2003

District	Boar	Castrated Male	Sow / Gilt	Male Piglet	She Piglet	Total
Bagamoyo	294	294
Kibaha	35	18	287	.	53	392
Kisarawe	142	332	474	568	710	2,226
Mkuranga	254	.	507	.	.	761
Total	724	349	1,268	568	763	3,673

LIVESTOCK PESTS AND PARASITE CONTROL

22.1 PESTS AND PARASITE: Number of Livestock Rearing Households Deworming Livestock by District during 2002/03 Agricultural Year

District	Deworming Livestock		Not Deworming Livestock		Total
	Number of Households	%	Number of Households	%	
Bagamoyo	2,499	44	3,161	56	5,660
Kibaha	646	61	407	39	1,053
Kisarawe	285	30	660	70	945
Mkuranga	197	40	296	60	493
Rufiji	395	22	1,369	78	1,765
Mafia	635	39	978	61	1,613
Total	4,657	40	6,871	60	11,528

22.2 PESTS AND PARASITE: Number of Livestock Rearing Households that Dewormed Livestock by Type of Livestock and District during the 2002/03 Agricultural Year

District	Goats		Cattle		Sheep		Pigs	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Bagamoyo	1,578	60	2,216	55	698	84	146	33
Kibaha	330	12	604	15	77	9	18	4
Kisarawe	237	9	285	7	0	0	95	21
Mkuranga	137	5	144	4	53	6	85	19
Rufiji	320	12	164	4	0	0	76	17
Mafia	40	2	619	15	0	0	24	5
Total	2,642	100	4,032	100	828	100	442	100

22.3 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of Agricultural Households Reporting to Have Encountered Tick Problems During 2002/03 Agriculture Year by District.

District	Ticks Problems		No Ticks Problems		Total
	Number of Households	%	Number of Households	%	
Bagamoyo	1,112	23	3,655	77	4,767
Kibaha	216	22	765	78	982
Kisarawe	422	43	570	57	992
Mkuranga	197	40	296	60	493
Rufiji	305	17	1,524	83	1,829
Mafia	1,061	62	649	38	1,709
Total	3,313	31	7,459	69	10,772

22.4 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Rearing Households by Methods of Ticks Control Use and District During the 2002/03 Agricultural Year

District	Method of Tick Control											
	None		Spraying		Dipping		Smearing		Other		Total	
	Number	% age	Number	% age	Number	% age	Number	% age	Number	% age	Number	% age
Bagamoyo	46	4	590	53	201	18	198	18	76	7	1,112	100
Kibaha	0	0	216	100	0	0	0	0	0	0	216	100
Kisarawe	0	0	333	79	0	0	0	0	90	21	422	100
Mkuranga	0	0	197	100	0	0	0	0	0	0	197	100
Rufiji	80	26	224	74	0	0	0	0	0	0	305	100
Mafia	184	17	560	53	70	7	15	1	232	22	1,061	100
Total	311	9	2,120	64	271	8	214	6	398	12	3,313	100

22.5 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of Agricultural Households Reporting to Have Encountered Tsetse Flies Problems During 2002/03 Agriculture Year by District

District	Tsetse Flies Problems		No Tsetse Flies Problems		Total
	Number of Households	%	Number of Households	%	
Bagamoyo	1,109	23	3,756	77	4,865
Kibaha	252	26	730	74	982
Kisarawe	375	38	618	62	992
Mkuranga	137	28	356	72	493
Rufiji	224	12	1,605	88	1,829
Mafia	311	19	1,325	81	1,636
Total	2,408	22	8,389	78	10,797

22.6 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Rearing Households by Methods of Tsetse Flies Control Use and District During the 2002/03 Agricultural Year

District	Method of Tsetse Flies Control						Total
	None		Spray		Dipping		
	Number	% age	Number	% age	Number	% age	
Bagamoyo	477	43	444	40	187	17	1,109
Kibaha	161	64	20	8	71	28	252
Kisarawe	90	24	285	76	0	0	375
Mkuranga	137	100	0	0	0	0	137
Rufiji	0	0	224	100	0	0	224
Mafia	204	65	108	35	0	0	311
Total	1,069	44	1,081	45	258	11	2,408

LIVESTOCK PESTS AND PARASITE CONTROL

22.1 PESTS AND PARASITE: Number of Livestock Rearing Households Deworming Livestock by District during 2002/03 Agricultural Year

District	Deworming Livestock		Not Deworming Livestock		Total
	Number of Households	%	Number of Households	%	
Bagamoyo	2,499	44	3,161	56	5,660
Kibaha	646	61	407	39	1,053
Kisarawe	285	30	660	70	945
Mkuranga	197	40	296	60	493
Rufiji	395	22	1,369	78	1,765
Mafia	635	39	978	61	1,613
Total	4,657	40	6,871	60	11,528

22.2 PESTS AND PARASITE: Number of Livestock Rearing Households that Dewormed Livestock by Type of Livestock and District during the 2002/03 Agricultural Year

District	Goats		Cattle		Sheep		Pigs	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Bagamoyo	1,578	60	2,216	55	698	84	146	33
Kibaha	330	12	604	15	77	9	18	4
Kisarawe	237	9	285	7	0	0	95	21
Mkuranga	137	5	144	4	53	6	85	19
Rufiji	320	12	164	4	0	0	76	17
Mafia	40	2	619	15	0	0	24	5
Total	2,642	100	4,032	100	828	100	442	100

22.3 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of Agricultural Households Reporting to Have Encountered Tick Problems During 2002/03 Agriculture Year by District.

District	Ticks Problems		No Ticks Problems		Total
	Number of Households	%	Number of Households	%	
Bagamoyo	1,112	23	3,655	77	4,767
Kibaha	216	22	765	78	982
Kisarawe	422	43	570	57	992
Mkuranga	197	40	296	60	493
Rufiji	305	17	1,524	83	1,829
Mafia	1,061	62	649	38	1,709
Total	3,313	31	7,459	69	10,772

22.4 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Rearing Households by Methods of Ticks Control Use and District During the 2002/03 Agricultural Year

District	Method of Tick Control											
	None		Spraying		Dipping		Smearing		Other		Total	
	Number	% age	Number	% age	Number	% age	Number	% age	Number	% age	Number	% age
Bagamoyo	46	4	590	53	201	18	198	18	76	7	1,112	100
Kibaha	0	0	216	100	0	0	0	0	0	0	216	100
Kisarawe	0	0	333	79	0	0	0	0	90	21	422	100
Mkuranga	0	0	197	100	0	0	0	0	0	0	197	100
Rufiji	80	26	224	74	0	0	0	0	0	0	305	100
Mafia	184	17	560	53	70	7	15	1	232	22	1,061	100
Total	311	9	2,120	64	271	8	214	6	398	12	3,313	100

22.5 LIVESTOCK PESTS AND PARASITE CONTROL: Number and Percent of Agricultural Households Reporting to Have Encountered Tsetse Flies Problems During 2002/03 Agriculture Year by District

District	Tsetse Flies Problems		No Tsetse Flies Problems		Total
	Number of Households	%	Number of Households	%	
Bagamoyo	1,109	23	3,756	77	4,865
Kibaha	252	26	730	74	982
Kisarawe	375	38	618	62	992
Mkuranga	137	28	356	72	493
Rufiji	224	12	1,605	88	1,829
Mafia	311	19	1,325	81	1,636
Total	2,408	22	8,389	78	10,797

22.6 LIVESTOCK PESTS AND PARASITE CONTROL: Number of Livestock Rearing Households by Methods of Tsetse Flies Control Use and District During the 2002/03 Agricultural Year

District	Method of Tsetse Flies Control						Total
	None		Spray		Dipping		
	Number	% age	Number	% age	Number	% age	
Bagamoyo	477	43	444	40	187	17	1,109
Kibaha	161	64	20	8	71	28	252
Kisarawe	90	24	285	76	0	0	375
Mkuranga	137	100	0	0	0	0	137
Rufiji	0	0	224	100	0	0	224
Mafia	204	65	108	35	0	0	311
Total	1,069	44	1,081	45	258	11	2,408

OTHER LIVESTOCK

23a OTHER LIVESTOCK: Total Number of Other Livestock by Type on 1st October 2003

Type	Chicken		Other Livestock			
	Number	%	Type	Number	Type	Number
Indigenous	1,254,145	88	Ducks	53,420	Donkeys	193
Layer	125,649	9	Turkeys	13,100	Horse	0
Broiler	40,358	3	Rabbits	11,371	Other	1,893
Total	1,420,152	100	Total	77,891	Total	2,086

23b OTHER LIVESTOCK: Number of Chicken by Category of Chicken and District on 1st October 2003

District	Number of Chicken			Total Number of Chicken
	Indigenous Chicken	Layer	Broiler	
Bagamoyo	369,118	931	0	370,049
Kibaha	91,743	2,852	7,743	102,338
Kisarawe	172,662	42,523	30,935	246,120
Mkuranga	322,132	0	0	322,132
Rufiji	243,880	67,879	0	311,759
Mafia	54,610	11,464	1,679	67,754
Total	1,254,145	125,649	40,358	1,420,152

23c OTHER LIVESTOCK: Number of Other Livestock by Type of Livestock and District

District	Type of Livestock				
	Ducks	Turkeys	Rabbits	Donkeys	Other
Bagamoyo	21,949	0	9,198	0	1,828
Kibaha	1,624	0	53	0	0
Kisarawe	2,784	0	1,409	0	0
Mkuranga	0	404	0	0	0
Rufiji	9,968	0	711	0	0
Mafia	17,094	12,696	0	193	65
Total	53,420	13,100	11,371	193	1,893

23d OTHER LIVESTOCK: Total Number of Households and Chicken Raised by Flock Size as of 1st October 2003

Flock Size	Chicken Rearing Households		Number of Chicken	Average Chicken per Household
	Number	%		
1 - 4	12,480	15.9	33,830	3
5 - 9	17,795	22.6	120,208	7
10 - 19	25,092	31.9	321,845	13
20 - 29	12,254	15.6	273,881	22
30 - 39	5,868	7.5	184,373	31
40 - 49	2,196	2.8	92,214	42
50 - 99	2,673	3.4	178,300	67
100+	329	0.4	215,501	655
Total	78,687	100	1,420,152	18

23e OTHER LIVESTOCK: Livestock/Poultry Population Trend

Type of Livestock/Poultry	1999	2003
Cattle	101,594	122,308
Improved cattle	1,450.0	11,948.0
Goats	65,659.0	98,604.0
Sheep	7,845.0	24,334.0
Pigs	3,581.0	3,673.0
Indigenous Chicken	808,574.0	1,254,145.0
Layers	6,306.0	125,649.0
Broilers	1,888.0	40,358.0
Total Chicken	816,765	1,420,152

FISH FARMING

28.1 FISH FARMING: Number of Agricultural Households involved in Fish Farming and District, 2002/03 Agricultural Year

District	Agricultural Households Doing Fish Farming		Agricultural Households NOT Doing Fish Farming		Total
	Number	%	Number	%	
Bagamoyo	0	0.0	37,290	100	37,290
Kibaha	0	0.0	14,029	100	14,029
Kisarawe	0	0.0	18,637	100	18,637
Mkuranga	0	0.0	34,744	100	34,744
Rufiji	0	0.0	30,906	100	30,906
Mafia	0	0.0	5,924	100	5,924
Total	0	0.0	141,530	100	141,530

28.2 FISH FARMING: Number of Agricultural Households by System of Fish Farming and District during the 2002/03 Agricultural Year

District	Fish Farming System	
	Dug out Pond	Total
Bagamoyo	0	0
Kibaha	0	0
Kisarawe	0	0
Mkuranga	0	0
Rufiji	0	0
Mafia	0	0
Total	0	0

LIVESTOCK EXTENSION

29.1a LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension by District During the 2002/03 Agricultural Year

District	Received Livestock Advice		Did Not Receive Livestock Advice		Total	Total Number of Households Raising Livestock	% receiving advice out of total
	Number	%	Number	%			
Bagamoyo	2,656	7	34,633	93	37,290	5,864	45
Kibaha	1,397	10	12,632	90	14,029	1,053	133
Kisarawe	2,032	11	16,605	89	18,637	992	205
Mkuranga	2,868	8	31,876	92	34,744	493	582
Rufiji	973	3	29,932	97	30,906	1,909	51
Mafia	242	4	5,683	96	5,924	1,869	13
Total	10,168	7	131,362	93	141,530	12,180	83

29.1b LIVESTOCK EXTENSION SERVICE PROVIDERS: Number of Agricultural Households by Source of Extension Services and District during the 2002/03 Agricultural Year

District	Source of extension advice											
	Government		NGO / Development Project		Co-operative		Large Scale Farmer		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Bagamoyo	2,284	35	1,209	18	1,163	18	1,163	18	759	12	6,578	100
Kibaha	1,343	47	745	26	519	18	137	5	137	5	2,882	100
Kisarawe	2,032	49	828	20	650	16	608	15	42	1	4,160	100
Mkuranga	2,699	67	145	4	1,200	30	0	0	0	0	4,043	100
Rufiji	741	56	218	16	218	16	74	6	74	6	1,325	100
Mafia	198	30	134	20	115	17	130	19	93	14	669	100
Total	9,296	47	3,279	17	3,864	20	2,113	11	1,105	6	19,657	100

29.2 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Feeds and Proper Feeding by Source and District, 2002/03 Agricultural Year

District	Source of Advice on Feeds and Proper Feeding				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Total		
Bagamoyo	1,477	0	0	1,477	5,864	25.2
Kibaha	1,001	54	27	1,082	1,053	102.7
Kisarawe	952	0	0	952	992	95.9
Mkuranga	2,088	0	0	2,088	493	423.5
Rufiji	302	0	0	302	1,909	15.8
Mafia	91	0	0	91	1,869	4.8
Total	5,911	54	27	5,992	12,180	49.2
%	98.7	0.9	0.4	100.0		

29.3 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Housing By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Housing				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Total		
Bagamoyo	2,002	0	0	2,002	5,864	34.1
Kibaha	1,010	89	27	1,125	1,053	106.8
Kisarawe	1,108	47	0	1,155	992	116.4
Mkuranga	2,141	0	0	2,141	493	434.2
Rufiji	669	0	0	669	1,909	35.0
Mafia	81	23	0	104	1,869	5.6
Total	7,011	159	27	7,196	12,180	59.1
%	97.4	2.2	0.4	100.0		

29.4 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Proper Milking by Source and District, 2002/03 Agricultural Year

District	Source of Advice on Proper Milking				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Total		
Bagamoyo	404	46	102	553	5,864	9.4
Kibaha	264	20	0	284	1,053	27.0
Kisarawe	235	47	0	283	992	28.5
Mkuranga	305	0	0	305	493	61.8
Rufiji	222	0	0	222	1,909	11.6
Mafia	22	23	0	45	1,869	2.4
Total	1,452	137	102	1,691	12,180	13.9
%	85.9	8.1	6.0	100.0		

29.5 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Milk Hygiene by Source and District, 2002/03 Agricultural Year

District	Source of Advice on Milk Hygiene				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Total		
Bagamoyo	504	46	102	652	5,864	11.1
Kibaha	264	20	0	284	1,053	27.0
Kisarawe	236	47	0	284	992	28.6
Mkuranga	225	0	0	225	493	45.6
Rufiji	226	0	0	226	1,909	11.8
Mafia	0	23	0	23	1,869	1.2
Total	1,454	137	102	1,693	12,180	13.9
%	85.9	8.1	6.0	100.0		

29.6 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Disease Control By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Disease Control					Total	Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Large Scale Farmer	Other			
Bagamoyo	1,514	0	102	0	0	1,616	5,864	27.6
Kibaha	435	89	0	27	0	551	1,053	52.3
Kisarawe	689	47	0	0	47	784	992	79.0
Mkuranga	2,140	0	0	0	0	2,140	493	434.1
Rufiji	593	0	0	0	0	593	1,909	31.1
Mafia	103	0	0	39	0	142	1,869	7.6
Total	5,475	136	102	66	47	5,827	12,180	47.8
%	94.0	2.3	1.8		0.8	100.0		

29.7 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Herd /Flock Size and Selection By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Herd/Flock Size				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Total		
Bagamoyo	604	0	102	706	5,864	12
Kibaha	495	0	0	495	1,053	47
Kisarawe	92	0	0	92	992	9
Mkuranga	80	0	0	80	493	16
Rufiji	74	0	0	74	1,909	4
Mafia	0	23	0	23	1,869	1
Total	1,345	23	102	1,470	12,180	12
%	91.5	1.6	7.0	100		

29.8 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Pasture Establishment and Selection By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Pasture Establishment and Selection			Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Total		
Bagamoyo	595	0	595	5,864	10
Kibaha	146	35	181	1,053	17
Kisarawe	189	47	236	992	24
Mkuranga	145	0	145	493	29
Rufiji	154	0	154	1,909	8
Total	1,229	82	1,311	12,180	11
%	93.7	6.3	100		

29.9 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Group Formation and Strengthening By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Group Formation and Strengthening				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Total		
Bagamoyo	505	0	102	607	5,864	10.4
Kibaha	488	35	0	522	1,053	49.6
Kisarawe	413	173	0	586	992	59.1
Mkuranga	1,641	0	0	1,641	493	332.9
Rufiji	362	0	0	362	1,909	19.0
Mafia	0	23	0	23	1,869	1.2
Total	3,409	231	102	3,742	12,180	30.7
%	91.1	6.2	2.7	100.0		

29.10 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Calf Rearing By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Calf Rearing					Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Co-operative	Large Scale Farmer	Total		
Bagamoyo	739	0	102	0	841	5,864	14.3
Kibaha	282	35	0	0	317	1,053	30.1
Kisarawe	237	47	0	0	284	992	28.6
Mkuranga	145	0	0	0	145	493	29.3
Rufiji	146	0	0	0	146	1,909	7.7
Mafia	27	0	0	15	43	1,869	2.3
Total	1,576	82	102	15	1,776	12,180	14.6
%	88.7	4.6	5.8	0.9	100.0		

29.11 LIVESTOCK EXTENSION: Number of Agricultural Households Receiving Extension Advice on Use of Improved Bulls By Source and District, 2002/03 Agricultural Year

District	Source of Advice on Use of Improved Bulls				Total Number of households raising livestock	% receiving advice out of total
	Government	NGO / Development Project	Large Scale Farmer	Total		
Bagamoyo	1,022	0	0	1,022	5,864	17.4
Kibaha	295	35	0	330	1,053	31.3
Kisarawe	142	143	0	285	992	28.7
Mkuranga	60	85	0	145	493	29.3
Rufiji	218	0	0	218	1,909	11.4
Mafia	34	0	31	65	1,869	3.5
Total	1,771	263	31	2,065	12,180	16.9
%	85.8	12.7	1.5	100.0		

29.12 LIVESTOCK EXTENSION: Number of Agricultural Households by Quality of Extension Services and District, 2002/03 Agricultural Year

District	Quality of Service										Total
	Very Good		Good		Average		Poor		No Good		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Bagamoyo	1,686	55	753	25	100	3	0	0	517	17	3,055
Kibaha	85	3	1,922	76	448	18	82	3	0	0	2,536
Kisarawe	263	10	1,759	69	414	16	0	0	126	5	2,561
Mkuranga	120	3	3,552	91	132	3	0	0	85	2	3,888
Rufiji	662	41	879	54	0	0	0	0	72	4	1,613
Mafia	120	23	181	34	227	43	0	0	0	0	528
Total	2,935	21	9,044	64	1,320	9	82	1	799	6	14,180

ACCESS TO INFRASTRUCTURE AND OTHER SERVICES

33.01a Mean Distances from Household Dwellings to Infrastructures and Services by Districts

District	Mean Distance to										
	Secondary Schools	Primary Schools	All weather roads	Feeder roads	Hospitals	Health Clinics	Regional Capital	Primary Markets	Secondary Market	Tertiary Market	Tarmac roads
Bagamoyo	21.2	2.3	2.9	1.8	68.6	5.3	101.6	13.0	33.5	68.1	10.8
Kibaha	27.1	1.8	1.7	0.6	39.6	9.2	48.4	10.3	18.9	42.5	10.4
Kisarawe	17.4	1.9	4.5	0.6	43.7	6.9	97.3	17.4	26.2	61.2	51.6
Mkuranga	26.0	3.0	4.3	1.0	37.9	7.5	118.7	13.0	21.9	45.2	17.9
Rufiji	25.1	2.3	5.9	1.6	46.1	8.2	213.0	18.3	35.6	78.1	37.0
Mafia	30.1	2.6	8.4	2.2	26.6	2.7	238.6	82.9	90.3	143.6	200.5
Total	23.7	2.4	4.2	1.3	48.2	7.0	130.0	17.4	31.1	64.4	31.5

Regional Capital	130.0
Tertiary Market	64.4
Hospitals	48.2
Tarmac roads	31.5
Secondary Market	31.1
Secondary Schools	23.7
Primary Markets	17.4
Health Clinics	7.0
All weather roads	4.2
Primary Schools	2.4
Feeder roads	1.3

33.01b: Number of Households by Distance to Secondary School by District for 2002/03 Agriculture Year

District	Distance to Secondary School										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	1159	3.1	1,745	4.7	8358	22.4	9793	26.3	16234	43.5	37290	21.2
Kibaha	321	2.3	1,344	9.6	5153	36.7	3649	26.0	3562	25.4	14029	27.1
Kisarawe	130	0.7	2,006	10.8	6593	35.4	3649	19.6	6259	33.6	18637	17.4
Mkuranga	339	1.0	1,038	3.0	7385	21.3	7611	21.9	18372	52.9	34744	26.0
Rufiji	265	0.9	1,538	5.0	3610	11.7	7236	23.4	18258	59.1	30906	25.1
Mafia	0	0.0	25	0.4	594	10.0	2075	35.0	3230	54.5	5924	30.1
Total	2214	1.6	7,695	5.4	31693	22.4	34013	24.0	65915	46.6	141530	23.7

33.01c: Number of Households by Distance to All Weather Road by District for 2002/03 Agriculture Year

District	Distance to All Weather Road										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	21330	57.2	8,095	21.7	5677	15.2	541	1.4	1647	4.4	37290	2.9
Kibaha	8812	62.8	3,375	24.1	1665	11.9	57	0.4	119	0.9	14029	1.7
Kisarawe	7245	38.9	3,286	17.6	4989	26.8	2980	16.0	138	0.7	18637	4.5
Mkuranga	16469	47.4	7,652	22.0	6818	19.6	2565	7.4	1240	3.6	34744	4.3
Rufiji	16042	51.9	4,654	15.1	4865	15.7	2827	9.1	2519	8.1	30906	5.9
Mafia	1697	28.6	1,582	26.7	2074	35.0	200	3.4	372	6.3	5924	8.4
Total	71594	50.6	28,644	20.2	26088	18.4	9170	6.5	6035	4.3	141530	4.2

33.01d: Number of Households by Distance to Feeder Road by District for 2002/03 Agriculture Year

District	Distance to Feeder Road										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	26,232	70.3	8,219	22.0	2182	5.9	170	0.5	488	1.3	37,290	1.8
Kibaha	10,768	76.8	2,705	19.3	445	3.2	111	0.8	0	0.0	14,029	0.6
Kisarawe	13,358	71.7	4,399	23.6	832	4.5	48	0.3	0	0.0	18,637	0.6
Mkuranga	21,419	61.6	10,224	29.4	3102	8.9	0	0.0	0	0.0	34,744	1.0
Rufiji	18,185	58.8	9,210	29.8	1871	6.1	828	2.7	811	2.6	30,906	1.6
Mafia	4,046	68.3	1,293	21.8	252	4.3	0	0.0	333	5.6	5,924	2.2
Total	94,006	66.4	36,050	25.5	8684	6.1	1157	0.8	1,632	1.2	141,530	1.3

33.01e: Number of Households by Distance to Hospital by District for 2002/03 Agriculture Year

District	Distance to hospital										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	102	0.3	102	0.3	1,354	3.6	5,016	13.5	30,716	82.4	37,290	68.6
Kibaha	100	0.7	577	4.1	1,737	12.4	3,532	25.2	8,083	57.6	14,029	39.6
Kisarawe	48	0.3	0	0.0	759	4.1	2,107	11.3	15,723	84.4	18,637	43.7
Mkuranga	82	0.2	623	1.8	2,543	7.3	5,405	15.6	26,090	75.1	34,744	37.9
Rufiji	336	1.1	642	2.1	2,379	7.7	2,829	9.2	24,719	80.0	30,906	46.1
Mafia	9	0.2	131	2.2	228	3.8	2,070	34.9	3,486	58.9	5,924	26.6
Total	677	0.5	2,075	1.5	9,000	6.4	20,960	14.8	108,817	76.9	141,530	48.2

33.01f: Number of Households by Distance to Health Clinic by District for 2002/03 Agricultural Year

District	Health clinic										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	5,636	15.1	12,438	33.4	12,734	34.1	5,748	15.4	734	2.0	37,290	5.3
Kibaha	1,813	12.9	3,654	26.0	5,550	39.6	1,792	12.8	1,220	8.7	14,029	9.2
Kisarawe	1,528	8.2	2,512	13.5	11,404	61.2	2,682	14.4	511	2.7	18,637	6.9
Mkuranga	1,878	5.4	3,673	10.6	18,802	54.1	9,156	26.4	1,235	3.6	34,744	7.5
Rufiji	7,281	23.6	6,916	22.4	8,309	26.9	3,022	9.8	5,377	17.4	30,906	8.2
Mafia	1,263	21.3	2,117	35.7	2,422	40.9	99	1.7	23	0.4	5,924	2.7
Total	19,399	13.7	31,310	22.1	59,221	41.8	22,500	15.9	9,100	6.4	141,530	7.0

33.01g: Number of Households by distance to Primary School for 2002/03 Agriculture Year

District	Distance to Primary School										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	10,008	26.8	16,101	43.2	10,000	26.8	1,092	2.9	89	0.2	37,290	2.3
Kibaha	2,777	19.8	7,834	55.8	3,376	24.1	42	0.3	0	0.0	14,029	1.8
Kisarawe	5,081	27.3	8,132	43.6	5,141	27.6	284	1.5	0	0.0	18,637	1.9
Mkuranga	7,256	20.9	13,482	38.8	12,076	34.8	1,851	5.3	79	0.2	34,744	3.0
Rufiji	12,927	41.8	8,678	28.1	7,213	23.3	1,928	6.2	159	0.5	30,906	2.3
Mafia	1,459	24.6	2,888	48.7	1,538	26.0	0	0.0	40	0.7	5,924	2.6
Total	39,508	27.9	57,115	40.4	39,342	27.8	5,197	3.7	367	0.3	141,530	2.4

33.01h: Number of Households by Distance to Regional Capital by District for 2002/03 Agriculture Year

District	Distance to Regional Capital										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	0	0.0	0	0.0	0	0.0	294	0.8	36,996	99.2	37,290	101.6
Kibaha	0	0.0	412	2.9	540	3.8	3,116	22.2	9,961	71.0	14,029	48.4
Kisarawe	0	0.0	0	0.0	0	0.0	759	4.1	17,878	95.9	18,637	97.3
Mkuranga	165	0.5	0	0.0	0	0.0	0	0.0	34,579	99.5	34,744	118.7
Rufiji	137	0.4	0	0.0	0	0.0	80	0.3	30,688	99.3	30,906	213.0
Mafia	0	0.0	0	0.0	0	0.0	0	0.0	5,924	100.0	5,924	238.6
Total	303	0.2	412	0.3	540	0.4	4,249	3.0	136,026	96.1	141,530	130.0

33.01i: Number of Households by Distance to District Capital by District for 2002/03 Agriculture Year

District	Distance to District Capital										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	102	0.3	193	0.5	1,175	3.1	4,965	13.3	30,854	82.7	37,290	79.4
Kibaha	39	0.3	452	3.2	577	4.1	3,143	22.4	9,819	70.0	14,029	45.0
Kisarawe	0	0.0	0	0.0	711	3.8	777	4.2	17,150	92.0	18,637	51.1
Mkuranga	0	0.0	539	1.6	2,295	6.6	5,309	15.3	26,601	76.6	34,744	39.9
Rufiji	281	0.9	333	1.1	573	1.9	2,530	8.2	27,189	88.0	30,906	63.6
Mafia	18	0.3	57	1.0	235	4.0	2,070	34.9	3,543	59.8	5,924	27.9
Total	440	0.3	1,574	1.1	5,565	3.9	18,795	13.3	115,156	81.4	141,530	56.9

33.01j: Number of Households by Distance to Tarmac Road by District for 2002/03 Agricultural Year

District	Tarmac Road										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	9,085	24.4	4,638	12.4	8,332	22.3	9,746	26.1	5,490	14.7	37,290	10.8
Kibaha	1,325	9.4	1,565	11.2	4,956	35.3	3,494	24.9	2,689	19.2	14,029	10.4
Kisarawe	95	0.5	0	0.0	1,711	9.2	1,733	9.3	15,098	81.0	18,637	51.6
Mkuranga	2,712	7.8	3,266	9.4	13,180	37.9	3,704	10.7	11,882	34.2	34,744	17.9
Rufiji	1,412	4.6	1,880	6.1	3,975	12.9	4,726	15.3	18,914	61.2	30,906	37.0
Mafia	0	0.0	22	0.4	0	0.0	0	0.0	5,902	99.6	5,924	200.5
Total	14,628	10.3	11,371	8.0	32,153	22.7	23,403	16.5	59,974	42.4	141,530	31.5

33.01k: Number of Households by Distance to Primary Market by District for 2002/03 Agricultural Year

District	Primary Market										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	3,979	10.7	5,981	16.0	11,678	31.3	7,989	21.4	7,663	20.5	37,290	13.0
Kibaha	624	4.4	2,180	15.5	5,427	38.7	3,777	26.9	2,021	14.4	14,029	10.3
Kisarawe	1,034	5.5	2,611	14.0	5,535	29.7	3,990	21.4	5,467	29.3	18,637	17.4
Mkuranga	3,460	10.0	6,215	17.9	11,434	32.9	5,905	17.0	7,730	22.2	34,744	13.0
Rufiji	9,674	31.3	3,631	11.7	4,234	13.7	1,620	5.2	11,747	38.0	30,906	18.3
Mafia	1,803	30.4	490	8.3	680	11.5	409	6.9	2,543	42.9	5,924	82.9
Total	20,572	14.5	21,108	14.9	38,989	27.5	23,689	16.7	37,171	26.3	141,530	17.4

33.01l: Number of Households by Distance to Tertiary Market by District for 2002/03 Agricultural Year

District	Tertiary Market										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	833	2.2	1,339	3.6	5,369	14.4	5,079	13.6	24,669	66.2	37,290	68.1
Kibaha	352	2.5	1,348	9.6	3,243	23.1	3,795	27.1	5,291	37.7	14,029	42.5
Kisarawe	42	0.2	0	0.0	1,041	5.6	1,828	9.8	15,726	84.4	18,637	61.2
Mkuranga	1,338	3.9	1,370	3.9	5,417	15.6	4,361	12.6	22,258	64.1	34,744	45.2
Rufiji	4,337	14.0	1,567	5.1	2,127	6.9	3,432	11.1	19,442	62.9	30,906	78.1
Mafia	340	5.7	135	2.3	55	0.9	845	14.3	4,549	76.8	5,924	143.6
Total	7,242	5.1	5,757	4.1	17,253	12.2	19,341	13.7	91,936	65.0	141,530	64.4

33.01m: Number of Households by Distance to Secondary Market by District for 2002/03 Agricultural Year

District	Secondary Market										Total Number of Households	Mean Distance
	Less than 1 km		1-2.9 km		3.0-9.9		10.0-19.9		Above 20 km			
	No of households	%	No of households	%	No of households	%	No of households	%	No of households	%		
Bagamoyo	2,536	6.8	1,753	4.7	8,567	23.0	6,545	17.6	17,888	48.0	37,290	33.5
Kibaha	875	6.2	1,352	9.6	3,872	27.6	4,213	30.0	3,717	26.5	14,029	18.9
Kisarawe	323	1.7	787	4.2	3,969	21.3	5,267	28.3	8,292	44.5	18,637	26.2
Mkuranga	1,246	3.6	1,520	4.4	11,661	33.6	4,268	12.3	16,049	46.2	34,744	21.9
Rufiji	6,251	20.2	1,616	5.2	3,459	11.2	3,021	9.8	16,558	53.6	30,906	35.6
Mafia	984	16.6	358	6.0	311	5.3	1,145	19.3	3,126	52.8	5,924	90.3
Total	12,216	8.6	7,386	5.2	31,839	22.5	24,459	17.3	65,630	46.4	141,530	31.1

33.19a TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Veterinary Clinic and District, 2002/03 Agricultural Year

District	Satisfaction of Using Veterinary Clinic										Total Number of Households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Bagamoyo	3,044	12.1	6,017	23.9	4,584	18.2	748	3.0	10,734	42.7	25,127
Kibaha	419	3.8	2,803	25.8	2,574	23.7	4,179	38.4	904	8.3	10,879
Kisarawe	371	15.9	1,114	47.9	428	18.4	271	11.7	142	6.1	2,327
Mkuranga	180	2.8	4,447	70.2	290	4.6	1,418	22.4	0	0.0	6,335
Rufiji	811	14.0	2,561	44.3	1,265	21.9	1,064	18.4	79	0.0	5,780
Mafia	154	2.7	1,006	17.5	1,848	32.2	2,290	39.8	449	7.8	5,746
Total	4,978	8.9	17,948	31.9	10,989	19.6	9,970	17.7	12,308	21.9	56,194

33.19b TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Extension Centre and District, 2002/03 Agricultural Year

District	Extension Centre										Total Number of Households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Bagamoyo	1,786	17.3	4,649	45.0	2,258	21.8	319	3.1	1,327	12.8	10,339
Kibaha	0	0.0	2,144	47.5	1,404	31.1	806	17.8	162	3.6	4,516
Kisarawe	235	16.9	785	56.3	285	20.4	90	6.5	0	0.0	1,396
Mkuranga	60	1.3	4,314	92.3	85	1.8	217	4.6	0	0.0	4,675
Rufiji	229	8.7	1,440	54.3	566	21.3	416	15.7	0	0.0	2,651
Mafia	68	3.8	639	35.2	495	27.2	569	31.3	46	2.5	1,816
Total	2,379	9.4	13,970	55.0	5,092	20.1	2,417	9.5	1,535	6.0	25,393

33.19c TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Research Station and District, 2002/03 Agricultural Year

District	Research Station										Total Number of Households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Bagamoyo	100	3.6	292	10.4	13	496	0	0.0	1,910	68.3	2,798
Kibaha	118	11.1	20	1.9		82	760	71.6	82	7.7	1,062
Kisarawe	45	19.1	47	20.1		0	0	0.0	142	60.8	234
Mkuranga	0	0.0	73	30.8		0	164	69.2	0	0.0	238
Rufiji	85	8.6	486	49.1	763	336	83	8.4	0	0.0	990
Mafia	0	0.0	22	5.9	122	48	229	62.3	69	18.7	368
Total	348	6.1	940	16.5	898	962	1,237	21.7	2,203	38.7	5,691

**33.19d TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Plant Protection Lab. and District, 2002/03
Agricultural Year**

District	Plant Protection Lab										Total Number of Households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Bagamoyo	455	15.9	0	0.0	577	20	76	2.7	1,747	61.2	2,855
Kibaha	107	8.8	56	4.6	298	24	674	55.3	82	6.7	1,218
Kisarawe	45	33.3	47	34.9	0	0	43	31.8	0	0.0	134
Mkuranga	0	0.0	0	0.0	0	0	349	100.0	0	0.0	349
Rufiji	0	0.0	374	56.0	83	12	132	19.8	79	11.8	668
Mafia	0	0.0	0	0.0	45	16	163	58.8	69	24.8	277
Total	607	3.5	477	7.1	1,003	30	1,437	49.0	1,976	10.0	5,500

**33.19e TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Land Registration Office and District, 2002/03
Agricultural Year**

District	Land Registration Office										Total Number of Households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Bagamoyo	301	10.4	198	6.8	396	14	95	3.3	1,910	65.8	2,901
Kibaha	81	4.1	178	9.1	468	24	790	40.5	435	22.3	1,951
Kisarawe	0	0.0	94	25.1	143	38	138	36.8	0	0.0	375
Mkuranga	0	0.0	60	13.4	126	28	262	58.5	0	0.0	448
Rufiji	295	40.9	128	17.8	219	30	79	10.9	0	0.0	721
Mafia	54	3.5	39	2.5	678	44	620	40.2	150	9.7	1,541
Total	731	9.2	697	8.8	2,031	26	1,984	25.0	2,496	31.4	7,938

33.19f TYPE OF SERVICE: Number of Agricultural Households by Satisfaction of Using Livestock Development Centre and District, 2002/03 Agricultural Year

District	Livestock Development Centre										Total Number of Households
	Very Good		Good		Average		Poor		No good		
	No of Households	%	No of Households	%	No of Households	%	No of Households	%	No of Households	%	
Bagamoyo	200	6.3	499	15.8	460	15	162	5.1	1,828	58.1	3,149
Kibaha	112	12.2	84	9.1	101	11	577	63.1	41	4.5	915
Kisarawe	46	33.0	94	67.0	0	0	0	0.0	0	0.0	140
Mkuranga	60	19.7	0	0.0	79	26	164	54.2	0	0.0	303
Rufiji	202	58.4	0	0.0	62	18	83	23.8	0	0.0	347
Mafia	31	2.4	280	21.1	553	42	415	31.3	46	3.5	1,325
Total	651	10.5	956	15.5	1,255	20	1,400	22.7	1,915	31.0	6,178

HOUSEHOLD FACILITIES

District	Type of toilet					Total
	No Toilet / Bush	Flush Toilet	Traditional Pit Latrine	Improved Pit Latrine - hh Owned	Other Type	
Bagamoyo	2,272	1,658	33,099	260	0	37,290
Kibaha	549	661	11,790	1,029	0	14,029
Kisarawe	610	230	17,152	646	0	18,637
Mkuranga	1,293	162	32,985	305	0	34,744
Rufiji	2,826	1,454	26,457	168	0	30,906
Mafia	1,383	70	4,394	55	23	5,924
Total	8,932	4,236	125,877	2,463	23	141,530
%	6.3	3.0	88.9	1.7	0.0	100.0

34.2 Number of Agriculture Households by type of Roofing Material and District, 2002/03 Agricultural Year

District	Average Number of Rooms per Household	Iron Sheets	Tiles	Concrete	Asbestos	Grass / Leaves	Grass & Mud	Other	Total Number of Households
Bagamoyo	3	12,815	99	0	440	19,768	3,878	289	37,290
Kibaha	2	6,465	99	0	0	7,237	227	0	14,029
Kisarawe	3	4,874	44	0	0	12,050	1,670	0	18,637
Mkuranga	3	7,570	79	0	0	27,014	81	0	34,744
Rufiji	3	5,494	58	53	62	21,830	3,409	0	30,906
Mafia	3	531	0	0	22	5,371	0	0	5,924
Total	3	37,749	380	53	524	93,270	9,265	289	141,530
%		26.7	0.3	0.0	0.4	65.9	6.5	0.2	100

34.3: Number of Agricultural Households by Type of Owned Assets and District during 2002/03 Agricultural Year

Type of Owned Asset	District							
	Bagamoyo		Kibaha		Kisarawe		Mkuranga	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Radio	25,965	26	10,086	10	11,902	12	25,934	26
Bicycle	18,686	29	6,194	10	7,445	12	16,109	25
Iron	5,276	26	3,478	17	2,253	11	5,605	27
Wheelbarrow	1,033	24	436	10	286	7	1,214	28
Mobile phone	1,103	43	741	29	0	0	564	22
Television / Video	185	11	358	20	143	8	327	19
Vehicle	369	27	383	28	234	17	213	16
Landline phone	98	24	162	39	0	0	79	19
Total Number of Households	37,290	26	14,029	10	18,637	13	34,744	25

Cont. 34.3: Number of Agricultural Households by Type of Owned Assets and District during 2002/03 Agricultural Year

Type of Owned Asset	District				TOTAL	
	Rufiji		Mafia		Number of Households	%
	Number of Households	%	Number of Households	%		
Radio	20,164	20	4,743	5	98,795	69.8
Bicycle	12,928	20	2,282	4	63,644	45.0
Iron	3,135	15	809	4	20,556	14.5
Wheelbarrow	1,273	29	129	3	4,371	3.1
Mobile phone	134	5	0	0	2,542	1.8
Television / Video	673	38	68	4	1,754	1.2
Vehicle	155	11	0	0	1,354	1.0
Landline phone	76	18	0	0	415	0.3
Total Number of Households	30,906	22	5,924	4	141,530	100.0

34.4: Number of Agricultural Households by Main Source of Energy Used for Lighting during 2002/03 Agricultural Year

Main Source of Energy for Lighting	District							
	Bagamoyo		Kibaha		Kisarawe		Mkuranga	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Wick Lamp	27,954	25	10,485	9	15,938	14	26,650	24
Hurricane Lamp	7,230	34	2,364	11	1,393	7	5,894	28
Pressure Lamp	958	23	494	12	417	10	1,309	31
Mains Electricity	946	38	591	24	95	4	165	7
Firewood	202	11	37	2	700	38	399	22
Candles	0	0	27	7	94	24	79	20
Solar	0	0	0	0	0	0	247	94
Other	0	0	31	100	0	0	0	0
Total	37,290	26	14,029	10	18,637	13	34,744	25

Cont. 34.4: Number of Agricultural Households by Main Source of Energy Used for Lighting during 2002/03 Agricultural Year

Main Source of Energy for Lighting	District				TOTAL	
	Rufiji		Mafia		Number of Households	%
	Number of Households	%	Number of Households	%		
Wick Lamp	26,201	24	3,830	3	111,057	78.5
Hurricane Lamp	2,603	12	1,719	8	21,204	15.0
Pressure Lamp	879	21	186	4	4,243	3.0
Mains Electricity	616	25	68	3	2,481	1.8
Firewood	449	24	70	4	1,856	1.3
Candles	158	40	36	9	395	0.3
Solar	0	0	16	6	263	0.2
Other	0	0	0	0	31	0.0
Total	30,906	22	5,924	4	141,530	100.0

34.5: Number of Agricultural Households by Main Source of Energy Used for Cooking during 2002/03 Agricultural Year

Main Source of Energy for Cooking	District							
	Bagamoyo		Kibaha		Kisarawe		Mkuranga	
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Firewood	34,782	26	12,507	9	18,193	14	33,234	25
Charcoal	2,054	32	1,522	24	353	6	1,149	18
Bottled Gas	96	32	0	0	47	16	162	53
Livestock Dung	204	100	0	0	0	0	0	0
Parraffin / Kerocine	76	39	0	0	44	22	60	30
Crop Residues	76	49	0	0	0	0	79	51
Gas (Biogas)	0	0	0	0	0	0	60	74
Solar	0	0	0	0	0	0	0	0
Total	37,290	26	14,029	10	18,637	13	34,744	25

Cont. 34.5: Number of Agricultural Households by Main Source of Energy Used for Cooking during 2002/03 Agricultural Year

Main Source of Energy for Cooking	District				TOTAL	
	Rufiji		Mafia		Number of Households	%
	Number of Households	%	Number of Households	%		
Firewood	29,723	22	5,693	4	134,132	94.8
Charcoal	1,102	17	193	3	6,374	4.5
Bottled Gas	0	0	0	0	305	0.2
Livestock Dung	0	0	0	0	204	0.1
Parraffin / Kerocine	0	0	17	9	197	0.1
Crop Residues	0	0	0	0	156	0.1
Gas (Biogas)	0	0	21	26	81	0.1
Solar	80	100	0	0	80	0.1
Total	30,906	22	5,924	4	141,530	100.0

34.6: Number of Agricultural Households by Main Source of Drinking Water by Season (wet and dry) and District during 2002/03 Agricultural Year

Source	Season	District						Total
		Bagamoyo	Kibaha	Kisarawe	Mkuranga	Rufiji	Mafia	
Piped Water	wet season	9,488	4,021	752	302	1,559	272	16,394
	dry season	10,579	4,866	1,663	457	1,539	248	19,353
Protected Well	wet season	2,275	790	2,198	3,517	1,860	1,232	11,872
	Dry season	2,556	1,479	3,466	3,173	1,185	1,611	13,470
Protected / Covered Spring	wet season	298	267	284	128	305	71	1,353
	Dry season	196	94	415	76	160	110	1,051
Uprotected Well	wet season	10,600	3,944	13,209	27,762	19,300	2,868	77,684
	Dry season	7,194	2,887	11,883	28,921	20,345	3,215	74,445
Unprotected Spring	wet season	1,531	584	598	1,166	328	119	4,327
	Dry season	1,158	550	648	1,405	256	119	4,137
Surface Water (Lake / Dam / River / Stream)	wet season	7,958	3,433	378	759	4,685	363	17,575
	Dry season	13,871	3,524	515	507	4,893	23	23,334
Covered Rainwater Catchment	wet season	0	0	0	351	0	26	377
	Dry season	82	0	47	79	80	16	304
Uncovered Rainwater Catchment	wet season	4,001	990	1,128	759	2,869	930	10,677
	Dry season	102	205	0	82	2,445	514	3,348
Water Vendor	wet season	89	0	90	0	0	0	179
	Dry season	832	71	0	45	0	21	969
Tanker Truck	wet season	0	0	0	0	0	0	0
	Dry season	195	0	0	0	0	5	200
Other	wet season	1,050	0	0	0	0	42	1,092
	Dry season	525	352	0	0	0	42	919
District		37,290	14,029	18,637	34,744	30,906	5,924	141,530

34.7: Proportion of Agricultural Households by Main Source of Drinking Water by Season (wet and dry) and District during 2002/03

Source	Season	District						Total
		Bagamoyo	Kibaha	Kisarawe	Mkuranga	Rufiji	Mafia	
Piped Water	wet season	25.4	28.7	4.0	0.9	5.0	4.6	11.6
	dry season	28.4	34.7	8.9	1.3	5.0	4.2	13.7
Protected Well	wet season	6.1	5.6	11.8	10.1	6.0	20.8	8.4
	Dry season	6.9	10.5	18.6	9.1	3.8	27.2	9.5
Protected / Covered Spring	wet season	0.8	1.9	1.5	0.4	1.0	1.2	1.0
	Dry season	0.5	0.7	2.2	0.2	0.5	1.9	0.7
Uprotected Well	wet season	28.4	28.1	70.9	79.9	62.4	48.4	54.9
	Dry season	19.3	20.6	63.8	83.2	65.8	54.3	52.6
Unprotected Spring	wet season	4.1	4.2	3.2	3.4	1.1	2.0	3.1
	Dry season	3.1	3.9	3.5	4.0	0.8	2.0	2.9
Surface Water (Lake / Dam / River / Stream)	wet season	21.3	24.5	2.0	2.2	15.2	6.1	12.4
	Dry season	37.2	25.1	2.8	1.5	15.8	0.4	16.5
Covered Rainwater Catchment	wet season	0.0	0.0	0.0	1.0	0.0	0.4	0.3
	Dry season	0.2	0.0	0.3	0.2	0.3	0.3	0.2
Uncovered Rainwater Catchment	wet season	10.7	7.1	6.1	2.2	9.3	15.7	7.5
	Dry season	0.3	1.5	0.0	0.2	7.9	8.7	2.4
Water Vendor	wet season	0.2	0.0	0.5	0.0	0.0	0.0	0.1
	Dry season	2.2	0.5	0.0	0.1	0.0	0.4	0.7
Tanker Truck	wet season	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Dry season	0.5	0.0	0.0	0.0	0.0	0.1	0.1
Other	wet season	2.8	0.0	0.0	0.0	0.0	0.7	0.8
	Dry season	1.4	2.5	0.0	0.0	0.0	0.7	0.6

34.8: Number of Households Reporting Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) by District for 2002/03 Agriculture Year

Time Spent to and from Main Source of Drinking Water	Season	District					
		Bagamoyo	Kibaha	Kisarawe	Mkuranga	Rufiji	Mafia
Less than 10	wet season	3,495	712	427	489	3,112	523
	Dry season	2,673	631	236	81	2,343	360
10 - 19 Minutes	wet season	8,680	4,944	4,302	12,000	7,296	2,440
	Dry season	5,229	2,484	3,063	6,677	4,750	1,758
20 - 29 Minutes	wet season	3,964	1,648	898	4,120	3,711	667
	Dry season	2,489	1,003	642	3,101	3,213	799
30 - 39 Minutes	wet season	9,236	2,845	4,792	9,095	7,177	1,051
	Dry season	5,690	1,791	2,322	8,603	5,680	1,279
40 - 49 Minutes	wet season	1,920	930	1,447	1,022	758	149
	Dry season	1,342	474	682	1,471	1,084	212
50 - 59 Minutes	wet season	5,330	1,003	1,357	3,092	1,402	452
	Dry season	3,616	828	491	1,944	1,087	325
above one Hour	wet season	4,664	1,948	5,415	4,926	7,449	643
	Dry season	16,251	6,817	11,201	12,867	12,749	1,191
Total Agricultural Households per District		37,290	14,029	18,637	34,744	30,906	5,924

34.9: Proportion of Households Reporting Time Spent to and from Main Source of Drinking Water by Season (Wet and Dry) by District for 2002/03 Agriculture Year

Time Spent to and from Main Source of Drinking Water	Season	District					
		Bagamoyo	Kibaha	Kisarawe	Mkuranga	Rufiji	Mafia
Less than 10	wet season	9	5	2	1	10	9
	Dry season	7	4	1	0	8	6
10 - 19 Minutes	wet season	23	35	23	35	24	41
	Dry season	14	18	16	19	15	30
20 - 29 Minutes	wet season	11	12	5	12	12	11
	Dry season	7	7	3	9	10	13
30 - 39 Minutes	wet season	25	20	26	26	23	18
	Dry season	15	13	12	25	18	22
40 - 49 Minutes	wet season	5	7	8	3	2	3
	Dry season	4	3	4	4	4	4
50 - 59 Minutes	wet season	14	7	7	9	5	8
	Dry season	10	6	3	6	4	5
above one Hour	wet season	13	14	29	14	24	11
	Dry season	44	49	60	37	41	20

34.10: Number of Agricultural Households by Number of Meals the Household Normally Took per Day by District

Number of Meals per Day	District												Total	
	Bagamoyo		Kibaha		Kisarawe		Mkuranga		Rufiji		Mafia			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
One	496	6.5	1,004	13.1	1,627	21.3	2,185	28.5	2,017	26.4	324	4.2	7,653	5.4
Two	9,801	24.7	5,554	14.0	7,009	17.6	6,586	16.6	9,224	23.2	1,538	3.9	39,711	28.1
Three	26,993	29.5	6,844	7.5	10,002	10.9	24,130	26.3	19,589	21.4	4,063	4.4	91,620	64.7
Four	0	0.0	626	24.6	0	0.0	1,844	72.5	75	3.0	0	0.0	2,545	1.8
Total	37,290	26.3	14,029	9.9	18,637	13.2	34,744	24.5	30,906	21.8	5,924	4.2	141,530	100.0

34.11: Number of Households by Number of Days the Household Consumed Meat during the Preceding Week by District

Number of Days	District												Total	
	Bagamoyo		Kibaha		Kisarawe		Mkuranga		Rufiji		Mafia			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Not Eaten	19,728	26.6	6,281	8.5	10,051	13.5	17,441	23.5	17,436	23.5	3,304	4.5	74,240	52.5
One	8,385	24.4	4,171	12.2	3,727	10.9	8,863	25.8	7,702	22.4	1,480	4.3	34,327	24.3
Two	5,392	27.4	2,254	11.4	2,578	13.1	5,168	26.2	3,703	18.8	595	3.0	19,689	13.9
Three	1,811	27.1	730	10.9	1,311	19.6	1,446	21.6	1,314	19.6	82	1.2	6,694	4.7
Four	1,232	42.4	240	8.3	418	14.4	632	21.8	320	11.0	64	2.2	2,906	2.1
Five	481	23.1	186	9.0	370	17.8	714	34.4	137	6.6	189	9.1	2,077	1.5
Six	100	9.8	64	6.4	47	4.7	481	47.4	138	13.6	184	18.1	1,014	0.7
Seven	162	27.8	103	17.7	135	23.2	0	0.0	155	26.6	28	4.7	582	0.4
Total	37,290	26.3	14,029	9.9	18,637	13.2	34,744	24.5	30,906	21.8	5,924	4.2	141,530	100.0

34.12: Number of Households by Number of Days the Household Consumed Fish during the Preceding Week by District

Number of Days	District												Total	
	Bagamoyo		Kibaha		Kisarawe		Mkuranga		Rufiji		Mafia			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Not Eaten	13,351	49.7	3,606	13.4	5,906	22.0	1,137	4.2	2,819	10.5	23	0.1	26,843	19.0
One	8,143	35.5	2,661	11.6	4,306	18.8	2,756	12.0	4,706	20.5	378	1.6	22,950	16.2
Two	7,460	28.5	2,993	11.4	4,109	15.7	5,108	19.5	6,232	23.8	314	1.2	26,216	18.5
Three	3,714	21.5	2,419	14.0	2,441	14.1	4,545	26.3	3,768	21.8	405	2.3	17,293	12.2
Four	1,465	9.9	1,281	8.6	936	6.3	5,943	40.0	4,848	32.7	374	2.5	14,847	10.5
Five	1,100	11.1	441	4.5	562	5.7	3,930	39.6	3,119	31.5	762	7.7	9,915	7.0
Six	277	7.3	305	8.0	95	2.5	1,420	37.2	875	22.9	844	22.1	3,814	2.7
Seven	1,778	9.0	322	1.6	283	1.4	9,907	50.4	4,539	23.1	2,824	14.4	19,653	13.9
Total	37,290	26.3	14,029	9.9	18,637	13.2	34,744	24.5	30,906	21.8	5,924	4.2	141,530	100.0

34.13: Number of Households Reporting the Status of Food Satisfaction of the Household during the Preceding Year by District

Status of Food Satisfaction	District												Total	
	Bagamoyo		Kibaha		Kisarawe		Mkuranga		Rufiji		Mafia			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Never	7,492	20.2	4,307	11.6	3,640	9.8	12,586	34.0	6,207	16.8	2,785	7.5	37,016	26.2
Seldom	14,542	27.0	4,498	8.3	6,238	11.6	13,836	25.7	12,909	23.9	1,877	3.5	53,900	38.1
Sometimes	4,964	40.9	1,545	12.7	998	8.2	2,553	21.1	1,480	12.2	585	4.8	12,124	8.6
Often	7,323	24.8	2,636	8.9	6,510	22.0	4,827	16.3	7,756	26.2	504	1.7	29,557	20.9
Always	2,969	33.2	1,043	11.7	1,252	14.0	942	10.5	2,554	28.6	173	1.9	8,933	6.3
Total	37,290	26.3	14,029	9.9	18,637	13.2	34,744	24.5	30,906	21.8	5,924	4.2	141,530	100

34.14: Number of Households by Type of Roofing Materials and District during the 2002/03 Agricultural Year

Roofing Materials	District												Total	
	Bagamoyo		Kibaha		Kisarawe		Mkuranga		Rufiji		Mafia			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Iron Sheets	12,815	33.9	6,465	17.1	4,874	12.9	7,570	20.1	5,494	14.6	531	1.4	37,749	26.7
Tiles	99	26.1	99	26.2	44	11.5	79	20.9	58	15.4	0	0.0	380	0.3
Concrete	0	0.0	0	0.0	0	0.0	0	0.0	53	100.0	0	0.0	53	0.0
Asbestos	440	84.0	0	0.0	0	0.0	0	0.0	62	11.8	22	4.2	524	0.4
Grass / Leaves	19,768	21.2	7,237	7.8	12,050	12.9	27,014	29.0	21,830	23.4	5,371	5.8	93,270	65.9
Grass & Mud	3,878	41.9	227	2.5	1,670	18.0	81	0.9	3,409	36.8	0	0.0	9,265	6.5
Other	289	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	289	0.2
Total	37,290	26.3	14,029	9.9	18,637	13.2	34,744	24.5	30,906	21.8	5,924	4.2	141,530	100.0

34.15: Number of Households by Main Source of Cash Income and District during 2002/03 Agriculture Year

Main Source of Cash Income	District												Total	
	Bagamoyo		Kibaha		Kisarawe		Mkuranga		Rufiji		Mafia			
	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households	%
Sales of Food Crops	2,234	7.0	4,524	14.3	1,391	4.4	4,982	15.7	18,280	57.7	283	0.9	31,695	22.4
Sale of Livestock	876	66.2	278	21.0	0	0.0	0	0.0	148	11.2	21	1.6	1,323	0.9
Sale of Livestock Products	1,334	63.3	281	13.3	95	4.5	313	14.9	0	0.0	83	4.0	2,106	1.5
Sales of Cash Crops	5,334	16.6	2,009	6.3	4,554	14.2	14,528	45.2	3,237	10.1	2,447	7.6	32,109	22.7
Sale of Forest Products	10,593	39.0	1,685	6.2	7,490	27.6	5,448	20.1	1,820	6.7	113	0.4	27,149	19.2
Business Income	3,550	29.2	1,142	9.4	1,386	11.4	3,954	32.6	1,633	13.4	477	3.9	12,141	8.6
Wages & Salaries in Cash	1,015	24.7	713	17.3	462	11.2	657	16.0	702	17.1	566	13.8	4,116	2.9
Other Casual Cash Earnings	8,473	55.5	2,045	13.4	1,627	10.7	2,162	14.2	547	3.6	399	2.6	15,254	10.8
Cash Remittance	2,334	29.6	1,082	13.7	1,539	19.5	1,626	20.6	1,115	14.2	186	2.4	7,882	5.6
Fishing	1,073	16.7	160	2.5	47	0.7	949	14.8	2,900	45.2	1,289	20.1	6,418	4.5
Other	473	35.4	110	8.2	46	3.5	125	9.3	524	39.2	59	4.4	1,336	0.9
Total	37,290	26.3	14,029	9.9	18,637	13.2	34,744	24.5	30,906	21.8	5,924	4.2	141,530	100.0

APPENDIX III QUESTIONNAIRES

UNITED REPUBLIC OF TANZANIA

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Page Number

Agriculture Sample Census 2002/03



ACLF 1: Sub-village leader listing form

Region _____ Code <input style="width:40px;" type="text"/>	Ward _____ Code <input style="width:40px;" type="text"/>
District _____ Code <input style="width:40px;" type="text"/>	Village _____ Code <input style="width:40px;" type="text"/>

Name of Village Chairman:.....

Sub-village leader number	Name of sub-village leader	Number of households		Comments
		From office register	After enumeration	
(1)	(2)	(3)	(4)	(5)
<input style="width:30px;" type="text"/>		<input style="width:40px;" type="text"/>	<input style="width:40px;" type="text"/>	
<input style="width:30px;" type="text"/>		<input style="width:40px;" type="text"/>	<input style="width:40px;" type="text"/>	
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<input style="width:30px;" type="text"/>		<input style="width:40px;" type="text"/>	<input style="width:40px;" type="text"/>	
<input style="width:30px;" type="text"/>		<input style="width:40px;" type="text"/>	<input style="width:40px;" type="text"/>	
Total		<input style="width:40px;" type="text"/>	<input style="width:40px;" type="text"/>	

Name of enumerator..... Signature Date.....

Name of supervisor..... Signature Date.....

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Interval _____
 Starting point _____

Page Number.....

Agriculture Sample Census 2002/03

ACLF: 2 Household listing form - form for listing household heads and their agriculture activities

Region _____	Code <input style="width: 20px;" type="text"/>	Name of Sub-village Leader _____
District _____	Code <input style="width: 20px;" type="text"/>	Subvillage leader code <input style="width: 20px;" type="text"/>
Ward _____	Code <input style="width: 20px;" type="text"/>	
Village _____	Code <input style="width: 20px;" type="text"/>	Name of Sub-village _____

Household Number	Household head name	Number of										✓ if the respondent qualifies to be a farmer *	Farmer Serial Numbers
		Fields +	Cattle				Goats	Sheep	Pigs	poultry/ducks	Rabbit		
			Total Number	Adult male cattle	Adult female cattle	Calves							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<input style="width: 30px;" type="text"/>													
<input style="width: 30px;" type="text"/>													
<input style="width: 30px;" type="text"/>													
<input style="width: 30px;" type="text"/>													
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<input style="width: 30px;" type="text"/>													
<input style="width: 30px;" type="text"/>													
<input style="width: 30px;" type="text"/>													
Totals													

* **NOTE:** (Column 13) Place a "✓" if the household has at least 1 field over 25m² and/or keeps at least 1 Cow, 5 Goats/Sheep/Pigs or 50 Chicken/poultry or ducks

+ (Column 3) A field must be at least 25 m²

Name of enumerator..... Signature Date.....

Name of supervisor..... Signature Date.....

UNITED REPUBLIC OF TANZANIA



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National Agriculture Sample Census 2002/03

ACLF: 3 Household listing of 15 selected farmers

Region _____
 District _____
 Ward _____
 Village _____

Code
 Code
 Code
 Code






S/N	Sub village leader number		Name of sub-village leader	Agriculture hh serial number	Name of selected head of household	Number of							
	(1)	(2)				(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
01				<input type="text"/> <input type="text"/> <input type="text"/>									
02				<input type="text"/> <input type="text"/> <input type="text"/>									
03				<input type="text"/> <input type="text"/> <input type="text"/>									
04				<input type="text"/> <input type="text"/> <input type="text"/>									
05				<input type="text"/> <input type="text"/> <input type="text"/>									
06				<input type="text"/> <input type="text"/> <input type="text"/>									
07				<input type="text"/> <input type="text"/> <input type="text"/>									
08				<input type="text"/> <input type="text"/> <input type="text"/>									
09				<input type="text"/> <input type="text"/> <input type="text"/>									
10				<input type="text"/> <input type="text"/> <input type="text"/>									
11				<input type="text"/> <input type="text"/> <input type="text"/>									
12				<input type="text"/> <input type="text"/> <input type="text"/>									
13				<input type="text"/> <input type="text"/> <input type="text"/>									
14				<input type="text"/> <input type="text"/> <input type="text"/>									
15				<input type="text"/> <input type="text"/> <input type="text"/>									

Name of Enumerator: _____ Signature _____ Date _____

Name of Supervisor _____ Signature _____ Date _____

Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development, Ministry of
 Cooperatives and Marketing and the National Bureau of Statistics

United Republic of Tanzania	
ACQ 1	
CONFIDENTIAL	
Small holder/Small Scale Farmer Questionnaire	
Agriculture Sample Census	
2002/2003	
	

Enumerator	Name	Signature									
	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Hour</td> <td style="width: 50%; text-align: center;">Minutes</td> </tr> <tr> <td style="text-align: center;"> <input type="text"/> <input type="text"/> </td> <td style="text-align: center;"> <input type="text"/> <input type="text"/> </td> </tr> <tr> <td style="text-align: center;">Start time</td> <td style="text-align: center;">End time</td> </tr> <tr> <td style="text-align: center;"> <input type="text"/> <input type="text"/> </td> <td style="text-align: center;"> <input type="text"/> <input type="text"/> </td> </tr> </table>	Hour	Minutes	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Start time	End time	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
Hour	Minutes										
<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>										
Start time	End time										
<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>										
Field level checking by:			<i>To be completed by the supervisor ONLY after field/farm level checking of the enumeration process. This should be countersigned by the enumerator.</i>								
District Supervisor:	Name	signature		Date							
Regional Supervisor:	Name	signature		Date							
National Supervisor:	Name	signature		Date							
District checking in Office:			<i>All questionnaires must be checked at the district office.</i>								
District Supervisor	Name	signature		Date							
For Use at National Level only:			<i>See back page for details of query</i>								
Data Entered by	Name	signature		Date							
Queried	Name	signature		Date							

Executed by the Ministry of Agriculture and Food Security, Ministry of Water and Livestock Development,
 Ministry of Cooperatives and Marketing
 and
 National Bureau of Statistics

1.0 IDENTIFICATION DETAILS			
1.1 Location			
S/N	Location Name	Codes	
1.1.1	Region	<input type="text"/> <input type="text"/>	
1.1.2	District	<input type="text"/>	
1.1.3	Ward	<input type="text"/> <input type="text"/> <input type="text"/>	
1.1.4	Village	<input type="text"/> <input type="text"/>	
1.2 Details of the respondent and household head			
S/N		Codes	
1.2.1	Name & number of local leader	<input type="text"/> <input type="text"/> <input type="text"/>	
1.2.2	Name & number of household head	<input type="text"/> <input type="text"/>	
1.2.3	Sex of household head (Male = 1, Female = 2)	<input type="text"/> <input type="text"/>	
1.2.4	Name of respondent	<input type="text"/> <input type="text"/>	
1.2.5	Relationship of Respondent to Household Head		
<p>Relationship to household head codes (Q 1.2.5) Head of Household.....1 Son/Daughter3 Grandson/Granddaughter5 Other (friend, employee, etc)...8 Spouse2 Father/Mother4 Other relative.....6</p>			
2.0 ACTIVITIES OF THE HOUSEHOLD			
2.1	Type of Agriculture Household	<input type="text"/>	
<p>Agriculture household codes(Q2.1) Crops only.....1 Livestock only2 Pastoralist.....3 Crops and Livestock4</p>			
2.2	Rank the following livelihood activities/source of income of the household in order of importance		
S/N	Livelihood/source of income activity.	Rank in order of importance 1=most 7=least	How important are each of these activities expressed in percentage.
	(1)	(2)	(3)
2.2.1	Annual Crop farming	<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> %
2.2.2	Permanent crop farming	<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> %
2.2.3	Livestock keeping/herding	<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> %
2.2.4	Off Farm Income	<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> %
2.2.5	Remittances	<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> %
2.2.6	Fishing/hunting and gathering	<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> %
2.2.7	Tree/forest resources (eg honey, firewood, timber,etc)	<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> %
			<input type="text"/> <input type="text"/> <input type="text"/> %

Definition and working page for page 1

General Definitions

Small holder hh/small scale farm:

Should have between 25sq metres and 20 Hectares under production, and/or between 1 and 50 head of Cattle, and/or between 5 and 100 head of Sheep/Goats/Pigs, and/or between 50 and 1000 chickens/turkeys/ducks/rabbits.

Household: A group of people who occupy the whole or part of one or more housing units and makes joint provisions for food and/or other essentials for living.

Household Head: A person who is acknowledged by all other members of the household either by virtue of his age or standing in the household as the head. He/she should be a permanent resident of the house and he/she is the main person responsible for making decisions.

Agricultural Holding: This is an economic unit of agricultural production under single management. It consists of all livestock kept and all land used for agricultural production without regard to title. For the purpose of this survey, the agricultural holdings are restricted to those which meet one of the following conditions:

- Having or operated at least 25 sq meter of arable land
- Own or keep at least one head of cattle or five goats/sheep/pigs or fifty chicken/ducks/turkeys during the agricultural year 2002/03 (October 2002 to September 2003) .

Question Specific Definitions:

Type of Agriculture Holdings Codes (Q2.1):

- **Crops only:** A holding is referred to be a crops only holding if it has cultivated a piece of land equal or exceeding 25 sq Meter. This also applies to all households owning or have kept livestock whose number does not qualify such household to be an agricultural holding (No cattle, less than 5 goats/sheep/pigs, less than 50 chickens/turkeys/ducks/rabbits)

- **Livestock only:** A holding is referred to be a Livestock only holding if it has exercised Livestock husbandry only during the agricultural year. The livestock can be herded in search for areas of pasture, but the core household unit always remains in the same place and the herder is rarely away from this place for long periods at a time.

- **Livestock pastoralism:** This refers to a household which practices livestock production as its major income generating activity and a means of subsistence, but moves from one place to another searching for water and pasture for the livestock. This movement usually involves long distances and in many cases the whole household unit moves with the livestock and they have no permanent place of residence.

For both livestock only and pastoralism , the number of livestock has to be at least 1 head of cattle, 5 goats/sheep/pigs or 50 chickens/turkeys/ ducks/rabbits. This also applies to all households owning or have cultivated a piece of land less than 25 sq meter, which does not qualify such household be an agricultural holding.

- **Both crops and livestock:** A holding is referred to be a both crops and livestock if it has cultivated a piece of land equal or exceeding 25 sq meter and if such households is owning or have kept livestock whose number qualify such household be an agricultural holding.

Important livelihood activities/source of income (Q 2.2):

- **Crop farming:** This refers to a household where crop production is its major means of subsistence and income generation.

- **Livestock farming/herding/pastoralism:** This refers to a household where livestock farming/herding is its major means of subsistence & income generation.

- **Off Farm Income** This refers to cash generated from activities other than from the households holding. This can be from permanent employment (eg government/other), temporary employment/labouring and includes cash generated from working on other farmers farms.

-**Remittances:** Assistance from family members who are not currently part of the household, or from a relative or family friend. This assistance is usually in the form of cash but it can also be in-kind (eg food, clothes, building material, farm tools, etc). The money is a gift and is not paid back.

-**Fishing/hunting and gathering** The use of non farmed resources for food eg fishing, hunting wildlife and gathering mushrooms, berries, wild honey roots from uncultivated land.

Procedures for Questions:

Q 2.1 Type of agriculture household/holding

1. Using the options under the question classify the type of agriculture hh/holding

Note: If the hh had 1 acre of crops and raised 40 chickens during 2002/03 it is classified as '**Crops only**' as the number of chickens do not qualify the hh as keeping livestock.

Q 2.2 Important hh livelihood activities /source of income

1. Read the list in column 1 to the respondent and ask him to rank them in order of importance during the reference year.

2. In column 2 Indicate the importance of each activity by placing '1' against the most important, '2' against the second most important, etc until you reach '7' the least important activity/source of income.

Note: You must attempt to fill in all boxes. Most households will carry out these activities to a greater or lesser degree. You will normally have to probe to get remittances.

If the hh did not undertake an activity during the 2002/2003 agriculture year then mark the appropriate box in column 2 with an 'X'.

3. For each activity/source of income assign a percentage. The enumerator should assist the respondent in assigning the percentage based on the information provided by the farmer.

4. After completing column 3 make sure the percentages add up to 100.

Note: It is not essential to be 100% accurate. This question is just to give the relative importance of the different items in general terms

3.0 HOUSEHOLD INFORMATION

3.1 Give details of personal **particulars** of all household members beginning with the head of the household

S/N	Names of household members	Relation-ship to head	Sex M=1 F=2	Age (if age is above 99 years then write 99)	Survival of Parents		Read & Write	Edu- ca- tion Status	Education Level reached	Invol- vement in farming	Main activity (for aged 5 & above)	Off-farm Income Yes=1 No=2
					Mo- ther	Fa- ther						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
3.1.1	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Relation to head (Col 2)

Head of household1
Spouse2
Son/daughter3
Father/Mother4
Grandson/granddaughter .5
Other Relative6
Others8

Survival of Parents (Col 5 & 6)

Yes1
No2
Don't know3

Read & Write (Col 7)

Swahili1
English2
Swahili & English3
Any other language4
Don't Read/ Write5

Education Status (Col 8)

Attending School1
Completed2
Never attended School3

Education Level Reached (Col 9)

Primary Education

Not of school ageNA
Under Standard One 00
Standard One01
Standard Two02
Standard Three03
Standard Four04
Standard Five05
Standard Six06
Standard Seven07
Standard Eight08
Training after Primary
Education09
Pre Form One10

Secondary Education

Form one11
Form two12
Form three13
Form four14
Form five15
Form six16
Training after Secondary
Education17
University & other tertiary
Education18
Adult Education19
Not applicable99

Involvement in farming activities (Col 10)

Works full time on farm ...1
Works part-time on farm 2
Rarely works on farm3
Never works on farm.....4

Main activity (Col 11)

Crop Farming01
Livestock Keeping/Herding..02
Livestock Pastoralism.....03
Fishing04
Paid employment:
- Government/parastatal05
- Private- NGO/mission/etc .06
Self employed (non farming)
- with employees07
- without employees08
Unpaid family helper (non
agriculture)09
Not working & available.....10
Not working & unavailable...11
Housemaker/housewife12
Student13
Unable to work /too old/
Retired/sick/disabled).....14
Other98

Definition and working page for page 2**Question Specific Definitions:****Relation to head (Col 2):**

- **Household Head:** A person who is acknowledged by all other members of the household either by virtue of their age or standing as the household head.

Read and Write (Col 7):

- **Any other language:** Must be a written language.

For someone who can read and write in Swahili and any other language apart from English, the correct code is 1. For one who can read and write in English and any other language apart from Swahili the correct code is 2. Code 4 should only be used for another language but not English or Swahili

Education Level Reached (Col 9):

Indicate the highest level only. For those still attending school fill in the last year reached before the survey period. For example if a hh member is currently in standard 7 this year his highest grade reached is standard 6

Main Activity (Col 11):

- **Crop farming:** The persons main activity is crop production. This can be annual crops, vegetables, permanent crops or tree farming.

- **Livestock farming/herding:** The persons main activity is livestock farming/herding. The livestock can be herded in search for areas of pasture, but the core household unit always remains in the same place and the herder is rarely away from this place for long periods at a time. This category also includes fish farming but not fishing.

- **Livestock pastoralism:** The persons main activity is in moving livestock from one place to another searching for water and pasture for the livestock. This movement usually involves long distances and in many cases the whole household unit moves with the livestock and they may have no permanent place of residence.

- **Paid employment** - In full time employment earning a cash income

- Government/Parastatal - In full time employment for a government Ministry, Department or Board that is controlled by the Government
- Private/NGO/Mission/etc - employed by Non public/government organisation

- **Self employee** - works for own business for cash income

- With employees - Works for own business for cash and employs other workers

- Without employees - Works for own business for cash but does not employ other workers

- **Not working but available to work** - No productive activity but would like to have one.

- **Not working & nor available for work** - No productive activity and does not want to have one.

- **Unable to work** too old, too young, retired, disabled, etc

Off-farm Income (Col 12) - Income made from activities NOT on the HH's farming activities. This can be any off farm income generation activity and includes working for cash on other peoples farms.

Indicate whether each member was involved in an off farm income generating activity during 2002/03

Overview to section 3.0**Section 3.0 - Preliminary note**

1. Make sure that you define the hh properly to ensure that all the members of the hh are included. Make sure you stress that the hh is not just the hh heads direct family and that it includes other people living and eating together with the family.

2. If you notice that his house is large or you see many people around his house and he has only given you small number of hh members enquire further until you are sure that you have captured all the hh members.

Procedures for questions**Section 3.0 - Household Information**

1. For each household member complete columns 1, 2 & 3.

2. After completing columns 1, 2 & 3 for each household member go back to the first household member and complete the remaining columns for that member.

3. Repeat step 2 for the rest of the household members

IMPORTANT NOTE:

Cross check responses in columns 11 and 12 with section 2 especially in relation to:

off-farm income - if a hh member was involved in off farm income then there should be a response in question 2.2.4 and vice versa.

4.0 LAND ACCESS/OWNERSHIP/TENURE			
4.1 Details of area "owned" by the household in the 2002/03 agricultural year. Give area reported by the respondent in "acres".		Area in Acres	
4.1.1	Area Leased/Certificate of ownership	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	4.2 Was all land available to the hh used during 2002/03 (Yes=1, No=2) <input type="checkbox"/>
4.1.2	Area owned under Customary Law	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
4.1.3	Area Bought from others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	4.3 Do you consider that you have sufficient land for the hh (Yes=1, No=2) <input type="checkbox"/>
4.1.4	Area Rented from others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
4.1.5	Area Borrowed from others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	4.4 Do any female members of the hh own or have customary right to land (Yes=1, No=2) <input type="checkbox"/>
4.1.6	Area Share -cropped from others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
4.1.7	Area under Other forms of tenure	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
Total area		<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	

5.0 LAND USE			
5.1 Area operated by household under different forms of land use during 2002/03 agriculture year. Give area reported by the respondent in "acres".		Area in Acres	
			Calculation area
5.1.1	Area under Temporary Mono-crops	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.2	Area under Temporary Mixed crops (eg Maize & beans)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.3	Area under Permanent Mono-crops	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.4	Area under Permanent Mixed crops (eg bananas, coffee & trees)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.5	Area under Permanent/temporary mix (eg bananas & maize)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.6	Area under Pasture	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.7	Area under Fallow	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.8	Area under Natural Bush	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.9	Area under Planted Trees	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.10	Area Rented to others	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.11	Area Unusable	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
5.1.12	Area of Uncultivated Usable land (excluding fallow)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	
Total area		<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/>	

6.0 ACCESS AND USE OF RESOURCES

6.1 In the following table indicate the distance to the different fields used by the household

S/N	Field Number	Distance (in kilometres) from field to:			Distance codes less than 100m1 between 2 and 3km6 between 100 and 300m ..2 between 3 and 5km7 between 300 and 500m ..3 between 5 and 10 km ..8 between 500 and 1km....4 Over 10 km9 between 1 and 2km5
		Homestead	Nearest road	Nearest Market	
6.1.1	1	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.1.2	2	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6.1.3	3	<input type="text"/>	<input type="text"/>	<input type="text"/>	

6.2 In the following table indicate the distance and use of the following communal resources

S/N	Communal Resource	Distance to resource (km)		Main hh use	Instructions for distance to resource (Col 2 and 3): If under 1km, write 0 If above 1km round to whole numbers eg 1.5km= 2km, 1.25km= 1km
		dry season	wet season		
	(1)	(2)	(3)	(4)	
6.2.1	Water for humans	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Main hh use (Col 4) Home or farm Consumption/utilisation.....1 Sold to Neighbours.....2 Sold to trader on the farm.....3 Sold to village market4 Sold to local wholesale market.....5 Sold to major wholesale market6 Not used by household.....7 Not available8
6.2.2	Water for livestock	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.3	Communal Grazing	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.4	Communal Firewood	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.5	Wood for Charcoal	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.6	Building poles	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.7	Forest for bees (honey)	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.8	Hunting (animal products)	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	
6.2.9	Fishing (Fish)	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	

Definition and working page for page 3

Question Specific Definitions

Section 4.1 - Land Access/Ownership

Lease/Certificate of Ownership Area under lease/certificate of ownership refers to the area for which the household possesses a government issued leasehold title or certificate of ownership. The land will normally be officially surveyed and boundaries marked. This includes leased land bought from others where the lease/certificate of ownership has been transferred.

Customary Law: This refers to the land which the hh does not have an official government title to but its right of use is granted by the traditional leaders. This user-right agreement does not have to be granted directly by the village leaders as right of access may be passed on through heredity.

Bought: This refers to the area of customary land that has been bought from others. This land does not have an official title and therefore is not leasehold.

Rented from others: Land rented from others for Cash or for a fixed amount in crop produce (eg fixed number of bags at harvest).

Borrowed: Use granted by land owner free of charge. Land owner can either be a lease holder or has right of access through customary law.

Share Cropping: where the hh is permitted to use land which is then paid for from a percentage of the harvested crop.

Section 5.0 Land Use

- **Temporary crops:** are sown and harvested during the same agricultural year

- **Permanent crops:** are sown or planted once and then , they occupy the land for some years and need not to be replanted after each annual harvest. Permanent crops are mainly trees (e.g., apples) but also bushes and shrubs (e.g., berries), palms (e.g., dates), vines (e.g., grapes), herbaceous stems (e.g., bananas) and stemless plants (e.g., pineapples).

- **Mixed Crops:** This is a mixture of two or more crops planted together and mixed in the same plot/field. The two crops can either be randomly planted together or they can be planted in a particular pattern eg intercropping (1 row of maize and 1 row of beans). A field that has been divided into plots for different crops is not mixed. This is further subdivided into:

Permanent Mixed -two or more permanent crops grown together,
Permanent/Temporary Mix - permanent crop and annual crop together,
Temporary Mixed - two or more temporary, annual crops grown together.

- **Pasture Land:** This is an area of owned/allocated land which is set aside for livestock grazing. It can be improved pasture where the farmer has planted grass, applied fertilized or applied other production increasing technologies to improve the grazing. Or it can be rough pasture.

- **Fallow:** This is the area of land that is normally used for crop production, but is not used for crop production during a year or a number of years. This is normally to allow for self generation of fertility/soil structure and is often an integral part of the crop rotation system.

- **Natural Bush:** Land which is considered productive but is not under cultivation or used extensively for livestock production and has naturally growing shrubs and trees.

- **Planted trees:** Land which is used for planting trees for poles or timber

- **Unusable:** Land that is known to be non-productive for agriculture purposes

Uncultivated Usable: This is land that was not used for reasons other than fallow. The reasons could be lack of inputs/money/rainfall/etc

Distance to fields (Q6.1):

-**fields** A field is a contiguous piece of land holding which the farmer considers as a single entity. The field may be divided into plots for growing different crops. A holding may consist of one or more fields in different localities.

Use of Communal Resources (Q6.2):

-**Communal resources** - refers to the place on which all individual households can have access to. It is not individually owned or controlled by one hh.

NOTE: The listed resources refers to communal resources and not those individually owned or part shared. The resource has to be freely accessible to the whole village

Overview to section 4

Section 4.0 - Preliminary note Land Access/ Ownership

Access/Ownership refers to the area utilized by the members of the household. This does not include communal land where the resources are shared between households. It does include official communal land that the hh has sole access to eg a plot for crop farming in the communal area.

Procedures for Questions

Section 4.0 - Land Ownership

1. Ask the respondent if he knows the total area of land the household has sole access to. If he knows make a note in the calculation space
2. Ask the respondent the area of the different land ownership categories the household has sole access to (Q4.1.1 to 4.1.7) and record in the appropriate spaces.
3. Add up the area of the different categories of land and compare it with the total area obtained in step 1 (if the respondent provided the information).
4. If the total area is different find out which one is correct and make amendments where appropriate.

Section 5.0 - Land Use

1. Ask the respondent the area of the different landuse categories the household has sole access to (Q5.1.1 to 5.1.12) and record in the appropriate spaces.
2. Add up the area of the different categories of land and compare it with the total area obtained in section 4.0. The total area should be the same.
3. If the total area is different find out which one is correct and make amendments where appropriate.

Section 6.2 Communal resources

Note: the code "Not available" means that the resource does not exist. The code "Not Used" means that the resource does exist but is not used by the hh.

7.0 ANNUAL CROP AND VEGETABLE PRODUCTION - SHORT RAINY SEASON

7.1.1 Did the hh **plant** any crops during the **Short Rainy** season? (Yes = 1, No=2)

If the response is '**NO**' give main reason Then go to section 7.2

Main Reason (Above) No rains.....1 Rains came too late2 Does not plant annual crops3
 No money 4 Don't get Vuli season ..5 Illness/social problems6
 Has irrigation & does not follow season (give annual production in Masika)7

7.1.2 For each crop planted during 2002/03 **Short Rainy** season provide the following information

Crop Name	Crop Code	Land Clearing	Soil preparation	Planting		Inputs						Harvesting & Storage				Marketing			
				Planned area (acres)	Actual Planted area (acres)	% improved seed	Irrigation use	Fertiliser use	Herbicide use	Fungicide use	Pesticide use	How harvested	How threshed	Area Harvested (acres)	main product code	Quantity harvested (Kgs)	Quantity Stored (kgs)	Quantity sold (kgs)	Mostly sold to
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Total Planned/Planted						Total area harvested													

7.1.3 Main reason for difference between **Area Planned** and **Area Planted**

7.1.4 Main reason for difference between **Area Planted** and **Area Harvested**

<p>Land Clearing (Col 3)</p> <p>Mostly bush clearance ...1 Mostly hand slashing ...2 Mostly tractor slashing ...3 Mostly burning4 No land clearing.....5</p>	<p>Improved seed Use (Col 7)</p> <p>all Improved1 approx 3/4 improved.....2 approx 1/2 improved.....3 approx 1/4 improved.....4 less than 1/4 improved ..5 No improved seed used.6</p>	<p>Fertiliser codes (Col 9)</p> <p>Mostly Farm Yard Manure 1 Mostly Compost2 Mostly Inorganic fertiliser ..3 No fertiliser applied4</p>	<p>Threshed/harvested (Col 13 & 14)</p> <p>By hand1 By draft animal2 By human powered tool.....3 By engine driven machine...4 Not applicable9</p>	<p>Mostly sold to (Col 20)</p> <p>Neighbour.....01 Local market/trade store02 Secondary Market...03 Tertiary Market04 Marketing Coop05 Farmer Association06 Largescale farm07 Trader at Farm08 Contract Partner ...09 Did not sell10 Other98</p>	<p>Reason for difference between area planned and planted (Q7.1.3)</p> <p>Drought1 Floods2 Access to land preparation tools (Draft animal/tractors).3 Credit4 Access to seeds/planting material.....5 Access to other inputs6 Other7 Not applicable9</p>	<p>Reason for difference between area planted and harvested (Q7.1.4)</p> <p>Drought1 Rain/flood damage2 Fire damage3 Pest damage4 Animal damage5 Theft6 Illness/social problems7 Other8 Not applicable9</p>
<p>Soil preparation Method (Col 4)</p> <p>Mostly tractor ploughing .1 Mostly Oxen ploughing ..2 Mostly Hand cultivation ..3</p>	<p>Irrigation Use (Col 8)</p> <p>Used on all crop1 Used on 3/4 of crop2 Used on 1/2 of crop.....3 Used on 1/4 of crop4 Used on less than 1/4.....5 Not used6</p>	<p>Agrochemical use codes (Col 10,11 & 12)</p> <p>Used on all crop1 Used on 3/4 of crop2 Used on 1/2 of crop.....3 Used on 1/4 of crop4 Used on less than 1/45 Not used6</p>	<p>Main product (Col 16)</p> <p>Dry Grain.....1 Green cob/green pod.....2 Green leaves & Stem.....3 Straw, dry stems etc4 Root, tuber, etc5 Flower eg pyrethrum6 Fruit/bunch7 Other.....8 Not harvested yet9</p>			

Definitions and working page for page 4

Working table for the calculation of area occupied by annual crop in a mixture

Crop mixture 1	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .
Total Area of permanent crops in mix					0 .
REMAINING AREA UNDER TEMPORARY CROPS					
				crop%	crop area
Temporary/permanent crop name 1					
Temporary/permanent crop name 2					
Temporary/permanent crop name 3					
Total area check			Crop total check		

Crop mixture 2	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .
Total Area of permanent crops in mix					0 .
REMAINING AREA UNDER TEMPORARY CROPS					
				crop%	crop area
Temporary/permanent crop name 1					
Temporary/permanent crop name 2					
Temporary/permanent crop name 3					
Total area check			Crop total check		

Land Clearing: Refers to removing trees/bush/grass prior to ploughing
Soil Preparation: Refers to the seedbed preparation (ploughing, harrowing, etc)
Planned Area: Area in **Acres** the household planned to plant before the season started
Actual Planted Area: The area in **Acres** the household was able to plant.
Area Harvested: The area in **Acres** that produced a harvest. This is the same as the area planted minus the area that was destroyed by major flood/pest/ animal/etc damage.

Temporary/Annual Crop:
 Crops which are planted and harvested within a period of 12 months after which time the plants die. Most annual crops are planted and harvested on a seasonal basis.

Crop Codes (Cereals /tubers/roots):

Code	Crop
11	Maize
12	Paddy
13	Sorghum
14	Bulrush Millet
15	Finger Millet
16	Wheat
17	Barley
22	Sweet Potatos
23	Irish potatoes
24	Yams
25	Cocoyams
26	Onions
27	Ginger

Vegetable Codes:

Co	Crop
-de	
86	Cabbage
87	Tomatoes
88	Spinach
89	Carrot
90	Chillies
91	Amaranths
92	Pumpkins
93	Cucumber
94	Egg Plant
95	Water Mellon
96	Cauliflower

Crop Codes Legumes Oil & fruit:

Code	Crop
31	Beans
32	Cowpeas
33	Green gram
35	Chick peas
36	Bambara nuts
37	Field peas
41	Sunflower
42	Simsim
43	Groundnut
47	Soyabeans
48	Caster seed

Cash Crop Codes:

Code	Crop
50	Cotton
51	Tobacco
53	Pyrethrum
62	Jute
19	Seaweed

Instructions for calculating the area of mixed crops in a mixture.

- If the mixed crop is mixed annual only enter the total area of the field in the REMAINING AREA UNDER TEMPORARY CROPS. and goto step 1 of these instructions.
- If the mixed crop is mixed permanent and annual try to get the % occupied by the different crops and calculate the area of annual crops outlined in step 1. Otherwise use the number of trees method to calculate the area of annual crops in the mix, Step C
- Number of trees method to calculate annual crop areas in a peranent-annual crop mix/
 - list each of the permanent crops in column b and enter the ground area per acre for each permanent crop (from instructions for page 6) in column 'd'.
 - obtain the number of permanent trees in the mix from the respondent and enter the number in column 'e'.
 - calculate the area occupied by each crop by multiplying column 'd' with column 'e' and sum these to obtain the total area of permanent crops in the mix.
 - subtract the total area of permanent crops in the mix from the total area of mix and enter the result in the total area under temporary crops.
 - proceed to step 1 to calculate the area under each temporary crop.

- Enter the name of each annual crop in the mix & estimate the percentage of each crop.
- Using the percentages for each crop calculate the area of each crop from the REMAINING AREA UNDER TEMPORARY CROPS.
- After completing this exercise for all fields, sum the area of each crop in the mix plus any monocrops and enter totals in section 7.1 col 6.
- Obtain an estimate of the planned area for each crop and enter it in column 5
- If the area harvested is different to the area planted estimate the harvest area
- Once the quantity harvested is obtained calculate the Yield (Metric tonnes/acre) & compare the figure with the norms given in the crop codes box. If it is excessively different check the area and the amount harvested.

7.2 ANNUAL CROP AND VEGETABLE PRODUCTION - LONG RAINY SEASON

7.2.1 Did the hh plant any crops during the LONG RAINY season? (Yes=1 No=2)

If the response is 'NO' give main reason

Then go to section 7.3

Main Reason (Above) No rains....1 Rains came too late2 Does not plant annual crops3
No money 4 Illness/social problems ..5

7.2.2 For each crop planted during 2002/03 Long Rainy season provide the following information

Crop Name	Crop Code	Land Clearing	Soil preparation	Planting		Inputs						Harvesting & Storage				Marketing			
				Planned area (acres)	Actual Planted area (acres)	% improved seed	Irrigation use	Fertiliser use	Herbicide use	Fungicide use	Pesticide use	How harvested	How threshed	Area Harvested (acres)	main product code	Quantity harvested (Kgs)	Quantity Stored (Kgs)	Quantity sold (kgs)	mostly sold to
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
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.....																			
.....																			
.....																			
Total Planned/Planted						Total area harvested													

7.2.3 Main reason for difference between Area Planned and Area Planted

7.2.4 Main reason for difference between Area Planted and Area Harvested

<p>Land Clearing (Col 3)</p> <p>Mostly bush clearance ...1 Mostly hand slashing2 Mostly tractor slashing ...3 Mostly burning4 No land clearing5</p>	<p>Improved seed Use (Col 7)</p> <p>all Improved1 approx 3/4 improved.....2 approx 1/2 improved.....3 approx 1/4 improved....4 less than 1/4 improved ..5 No improved seed used.6</p>	<p>Fertiliser codes (Col 9)</p> <p>Mostly Farm Yard Manure 1 Mostly Compost2 Mostly Inorganic fertiliser ..3 No fertiliser applied4</p>	<p>Threshed/harvested (Col13 & 14)</p> <p>By hand1 By draft animal2 By human powered tool.....3 By engine driven machine...4 Not applicable9</p>	<p>Mostly sold to (Col 20)</p> <p>Neighbour.....01 Local market/trade store02 Secondary Market...03 Tertiary Market04 Marketing Coop ...05 Farmer Association06 Largescale farm ...07 Trader at Farm08 Contract Partner ...09 Did not sell10 Other98</p>	<p>Reason for difference between area planned and planted (Q7.2.3)</p> <p>Drought1 Floods2 Access to land preparation tools (Draft animal/tractors).3 Credit4 Access to seeds/planting material.....5 Access to other inputs6 Other8 Not applicable9</p>	<p>Reason for difference between area planted and harvested (Q7.2.4)</p> <p>Drought1 Rain/flood damage2 Fire damage3 Pest damage4 Animal damage5 Theft6 Illness/social problems7 Other8 Not applicable.....9</p>
<p>Soil preparation Method (Col 4)</p> <p>Mostly tractor ploughing .1 Mostly Oxen ploughing ..2 Mostly Hand cultivation ..3</p>	<p>Irrigation Use (Col 8)</p> <p>Used on all crop1 Used on 3/4 crop2 Used on 1/2 crop3 Used on 1/4 of crop.....4 Used on less than 1/4 ...5 Not used6</p>	<p>Agrochemical use codes (Col 10,11 &12)</p> <p>Used on all crop1 Used on 3/4 of crop2 Used on half of crop3 Used on 1/4 of crop4 Used on less than 1/45 Not used6</p>	<p>Main product (Col 16)</p> <p>Dry Grain1 Green cob/green pod.....2 Green leaves & Stem.....3 Straw, dry stems etc4 Root, tuber, etc5 Flower eg pyrethrum6 Fruit/bunch.....7 Others8 Not harvested yet9</p>			

Definitions and working page for page 5

Working table for the calculation of area occupied by annual crop in a mixture

Crop mixture 1	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .

Total Area of permanent crops in mix 0 .

REMAINING AREA UNDER TEMPORARY CROPS

	Temp crop%	Temp crop area
Permanent/Temporary crop name 1		
Permanent/Temporary crop name 2		
Permanent/Temporary crop name 3		

Total area check . Temporary crop total check .

Crop mixture 2	Crop Name	Total area of mix (acre)	Ground area/plant (ACRE)	Total no. of plants	Total ground area of plants (ACRES)
(a)	(b)	(c)	(d)	(e)	(f)
Permanent crop 1			0.00		0 .
Permanent crop 2			0.00		0 .
Permanent crop 3			0.00		0 .
Permanent crop 4			0.00		0 .

Total Area of permanent crops in mix 0 .

REMAINING AREA UNDER TEMPORARY CROPS

	Temp crop%	Temp crop area
Temporary/permanent crop name 1		
Temporary/permanent crop name 2		
Temporary/permanent crop name 3		

Total area check . Temporary crop total check .

Land Clearing: Refers to removing trees/bush/grass prior to ploughing
Soil Preparation: Refers to the seedbed preparation (ploughing, harrowing, etc)
Planned Area: Area in Acres the household planned to plant before the season started
Actual Planted Area: The area in Acres the household was able to plant.
Area Harvested: The area in Acres that the household got most of its production from. This is the same as the area planted minus the area that was destroyed by major flood/pest/ animal/etc damage

<p>Temporary/Annual Crop: Crops which are planted and harvested within a period of 12 months after which time the plants die. Most annual crops are planted and harvested on a seasonal basis.</p>	<p>Crop Codes (Cereals /tubers/roots):</p> <table border="1"> <tr><td>Code Crop</td></tr> <tr><td>11 Maize</td></tr> <tr><td>12 Paddy</td></tr> <tr><td>13 Sorghum</td></tr> <tr><td>14 Bulrush Millet</td></tr> <tr><td>15 Finger Millet</td></tr> <tr><td>16 Wheat</td></tr> <tr><td>17 Barley</td></tr> <tr><td>22 Sweet Potatos</td></tr> <tr><td>23 Irish potatos</td></tr> <tr><td>24 Yams</td></tr> <tr><td>25 Cocoyams</td></tr> <tr><td>26 Onions</td></tr> <tr><td>27 Ginger</td></tr> </table>	Code Crop	11 Maize	12 Paddy	13 Sorghum	14 Bulrush Millet	15 Finger Millet	16 Wheat	17 Barley	22 Sweet Potatos	23 Irish potatos	24 Yams	25 Cocoyams	26 Onions	27 Ginger	<p>Vegetable Codes:</p> <table border="1"> <tr><td>Code Crop</td><td>27 Ginger</td></tr> <tr><td>86 Cabbage</td></tr> <tr><td>87 Tomatoes</td></tr> <tr><td>88 Spinach</td></tr> <tr><td>89 Carrot</td></tr> <tr><td>90 Chillies</td></tr> <tr><td>91 Amaranths</td></tr> <tr><td>92 Pumpkins</td></tr> <tr><td>93 Cucumber</td></tr> <tr><td>94 Egg Plant</td></tr> <tr><td>95 Water Mellon</td></tr> <tr><td>96 Cauliflower</td></tr> <tr><td>20 Garlic</td></tr> </table>	Code Crop	27 Ginger	86 Cabbage	87 Tomatoes	88 Spinach	89 Carrot	90 Chillies	91 Amaranths	92 Pumpkins	93 Cucumber	94 Egg Plant	95 Water Mellon	96 Cauliflower	20 Garlic	<p>Crop Codes Legumes Oil & fruit:</p> <table border="1"> <tr><td>Code Crop</td><td>31 Beans</td></tr> <tr><td>32 Cowpeas</td></tr> <tr><td>33 Green gram</td></tr> <tr><td>35 Chick peas</td></tr> <tr><td>36 Bambara nuts</td></tr> <tr><td>37 Field peas</td></tr> <tr><td>41 Sunflower</td></tr> <tr><td>42 Simsim</td></tr> <tr><td>43 Groundnut</td></tr> <tr><td>47 Soyabeans</td></tr> <tr><td>48 Caster seed</td></tr> </table>	Code Crop	31 Beans	32 Cowpeas	33 Green gram	35 Chick peas	36 Bambara nuts	37 Field peas	41 Sunflower	42 Simsim	43 Groundnut	47 Soyabeans	48 Caster seed
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62 Jute																																											
19 Seaweed																																											

Instructions for calculating the area of mixed crops in a mixture.

- If the mixed crop is mixed annual only enter the total area of the field in the REMAINING AREA UNDER TEMPORARY CROPS. and goto step 1 of these instructions.
- If the mixed crop is mixed permanent and annual try to get the % occupied by the different crops and calculate the area of annual crops outlined in step 1. Otherwise use the number of trees method to calculate the area of annual crops in the mix (Step C).
- Number of trees method to calculate annual crop areas in a perenent-annual crop mix
 - list each of the permanent crops in column b and enter the ground area per acre for each permanent crop (from instructions for page 6) in column 'd'.
 - obtain the number of permanent trees in the mix from the respondent and enter the number in column 'e'.
 - calculate the area occupied by each crop by multiplying column 'd' with column 'e' and sum these to obtain the total area of permanent crops in the mix.
 - subtract the total area of permanent crops in the mix from the total area of mix and enter the result in the total area under temporary crops.
 - proceed to step 1 to calculate the area under each temporary crop.

- Enter the name of each annual crop in the mix & estimate the percentage of each crop.
- Using the percentages for each crop calculate the area of each crop from the REMAINING AREA UNDER TEMPORARY CROPS.
- After completing this exercise for all fields, sum the area of each crop in the mix plus any monocrops and enter totals in section 7.1 col 6.
- Obtain an estimate of the planned area for each crop and enter it in column 5
- If the area harvested is different to the area planted estimate the harvest area
- Once the quantity harvested is obtained calculate the Yield (Metric tonnes/acre) & compare the figure with the norms given in the crop codes box. If it is excessively different check the area and the amount harvested.

7.3 PERMANENT/PERENNIAL CROPS AND FRUIT TREE PRODUCTION

7.3.1 Does your household have any permanent/perennial crops or fruit trees (Yes=1, No=2) 1

7.3.2 For each of the permanent crops and fruit trees owned by the household provide the following information

		Size of production unit			Inputs					Harvesting & Storage					Marketing		
Perm- anent Crop Name	Perman- ent crop/ fruit tree crop Code	MONOCROP	MIXED CROP		Irrig- -at -ion use	Fert- -ilis- -er use	Herb- -ic -ide use	Fun- -gic -ide use	Pest -ici- -de use	Area Harvested (acres)	Number of mature plants	main prod- -uct code	Quantity harvested (kgs)	If no harvest give re- -ason	Quantity Stored (Kgs)	Quantity sold (kgs)	mostly sold to
		Area of Plants/ trees/Bushes in MONO CROP (acres)	Area covered by Permanent Crop in a MIXED CROP (acre)	Number of permanent Plants/trees in a MIXED CROP													
.....																	
.....																	
.....																	
.....																	
.....																	
.....																	
.....																	
.....																	
.....																	
.....																	
.....																	

<p><u>Irrigation Use (Col 6)</u> Used on all crop1 Used on most crop2 Used on half crop3 Used on small amount of crop.4 Not used on crop5</p>	<p><u>Fertiliser codes (Col 7)</u> Mostly Farm Yard Manure.....1 Mostly Compost2 Mostly Inorganic fertiliser3 No fertiliser applied4</p>	<p><u>Agrochemical use codes (Col 8, 9 & 10)</u> Used on all crop1 Used on 3/4 of crop2 Used on 1/2. of crop3 Used on 1/4 of crop4 less than 1/4 of crop5 Not used6</p>	<p><u>Main product (Col 13)</u> Dry Grain.....1 Green cob/green pod..2 Green leaves & Stem..3 Straw, dry stems etc ...4 Root, tuber, etc5 Flower6 Fruit/bunch.....7 Other8 Not harvested yet9</p>	<p><u>Main Reason for no harvest(Col 15)</u> Crop not harvested yet1 Drought2 Rain/flood damage3 Fire damage4 Pest damage5 Animal damage6 Theft7 Other8 Not applicable9</p>	<p><u>Mostly sold to (Col 18)</u> Neighbour.....01 Local market/trade store....02 Secondary Market03 Tertiary Market04 Marketing Coop05 Farmer Association06 Largescale farm07 Trader at farm08 Contract Partner09 Did not sell10 Other98</p>
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Definitions and working page for page 6

Permanent Crop:

Permanent crops: are sown or planted once and then , they occupy the land for some years and need not to be replanted after each annual harvest. Permanent crops are mainly trees (e.g., apples) but also bushes and shrubs (e.g., berries), palms (e.g., dates), vines (e.g., grapes), herbaceous stems (e.g., bananas) and stemless plants (e.g., pineapples).

Total number of plants:

This includes both mature harvestable plants and immature non harvestable plants.

Number of mature plants: This is the number of plants which bared harvest.

Instructions for Permanent crop mono stands and mixtures

- A.** For fields that are **monocrop permanent**, **ONLY** enter the **area of plants in column 3**.
- B.** For fields that are **mixed permanent** calculate the area of each crop based on the % **occupied by each crop method** (NOT using the number of trees method) and **ONLY** enter the area in **column 4**
- C.** For fields that are **mixed permanent/annual** either:
- **ONLY** enter the **area in column 4** if the area of the permanent crop was based on the % **occupied by each crop method**
- OR**
- **ONLY** enter the **number of trees in column 5** if the number of permanent crop plants was provided

Permanent crops (oils):

Code	Crop	Ground area/plant
44	Palm Oil	0.00049
45	Coconut	0.00037
46	Cashewnut	0.00062

Permanent (Cash crops)

Code	Crop	Ground area/plant
53	Sisal	0.00012
54	Coffee	0.00049
55	Tea	0.00037
56	Cocoa	0.00049
57	Rubber	0.00099
58	Wattle	0.00099
59	Kapok	0.00124
60	Sugar Cane	0.00012
61	Cardamom	0.00049
63	Tamarin	0.00099
64	Cinamon	0.00124
65	Nutmeg	0.00099
66	Clove	0.00074
18	Black Pepper	0.00037
34	Pigeon pea	0.00025
21	Cassava	0.00019
75	Pineapple	0.00006

Permanent Crops:

Code	Crop	Ground area/plant
70	Passion Fruit	0.00074
71	Banana	0.00037
72	Avocado	0.00099
73	Mango	0.00099
74	Papaw	0.00037
76	Orange	0.00074
77	Grapefruit	0.00074
78	Grapes	0.00012
79	Mandarin	0.00074
80	Guava	0.00074
81	Plums	0.00074
82	Apples	0.00074
83	Pears	0.00074
84	Peaches	0.00074
85	Lime/lemon	0.00074
68	Pomelo	0.00099
69	Jack fruit	0.00074
97	Durian	0.00074
98	Bilimbi	0.00074
99	Rambutan	0.00074
67	Bread fruit	0.00099
38	Malay apple	0.00074
39	Star fruit	0.00074

Working Area/calculation space

7.4 Main use of Secondary Products

7.5 Did you use **Secondary Products** from any of your crops during the 2002/03 year. (Yes=1, No=2)

If the response is 'NO' go to section 8.0

7.6 List the **main crops** with **secondary products** and provide the following details:

S/N	Crop name	Crop Code	Secondary product	Prod code	Used for	Unit	Total no of Units	No of units sold	Total value of sold units (Tsh.)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7.6.1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.6.6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Main product (Col 4)

Green leaves & Stem...1 Flower ...4
 Straw, dry stems etc ...2 Fruit5
 Root, tuber, etc3 Other8

Mainly used for (Col 5)

Feeding to livestock ..1 Consumed by hh4
 Building material2 Sold5
 Fuel for cooking3 Did not use.....6

Unit (Col 6)

Loose Bundle/bunch1 kg5
 Compressed bunch/Bail...2 Stems6
 Tin3 Sack7
 Bucket4 Other8

8.0 AGROPROCESSING AND BY-PRODUCTS

8.1 Did the household **process** any of the products harvested on the farm during 2002/03 (Yes=1, No=2)

If the response is 'NO' go to section 9.0

8.2 List the **main crops** processed and provide the following details:

S/N	Crop name	Crop Code	Proc-ess-ed	Main Prod-uct code	Used for	Unit	Quantity of main product	Quantity Sold	Where sold	By-Prod-uct code	Used for	Unit	Quantity of by-product	Quantity Sold
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
8.2.1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.2.6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Processed (Col 3)

On farm by hand1
 On farm by machine2
 By neighbours machine...3
 By farmers association ...4
 By Cooperative union5
 By trader6
 On Large scale farm7
 By factory9
 Other8

Main product code (Col 4)

Flour/meal.....1
 Grain2
 Oil3
 Juice4
 Fiber.....5
 Pulp6
 Sheet7
 Other8

Used for (Col 5 & 11)

Household/human consumption ..1
 Fuel for cooking2
 Sale3
 Animal consumption.....4
 Did not use5
 Other8

Where sold (Col 9)

Neighbour.....1
 Local market/trade store2
 Secondary Market3
 Marketing Coop4
 Farmer Association5
 Largescale farm6
 Trader at farm7
 Did not sell9
 Other8

By-product code (Col 10)

Bran01
 Cake02
 Husk03
 Juice04
 Fiber05
 Pulp06
 Oil07
 Shell08
 Other98

Unit (Col 6 & 12)

Loose bundle/bunch1
 Compressed bunch/bail...2
 Tin3
 Bucket4
 kg5
 litre6
 Other8

Definition and working page for page 7					
Temporary/annual crop codes for section 7.4 col 2					General Definition for Section 7.4
Crop Code	Crop Name	Secondary Product Question 7.4	Agroprocessing & bi-products		
			Main Products (Section 8.0)	Bi-product (Sect 8.0)	
			1	2	
11	Maize	Stems/straw	Flour	Bran	
12	Paddy	Stems/straw	polished rice grain	husk	
13	Sorghum	Stems/straw	flour		
14	Bulrush Millet	Stems/straw	flour		
15	Finger Millet	Stems/straw	flour		
16	Wheat	Stems/straw	flour	Bran	
17	Barley	Stems/straw	flour	Bran	
21	Cassava	Leaves/stems	flour		
22	Sweet Potatoes	Leaves			
23	Irish potatoes				
24	Yams				
25	Cocoyams				
26	Onions				
27	Ginger				
31	Beans	straw/stems			
32	Cowpeas	straw			
33	Green gram	straw			
34	Pigeon peas	stems			
35	Chick peas	straw			
36	Bambara nuts	straw/stems	oil	cake	
41	Sunflower	Stems	oil	Cake	
42	Simsim	straw	oil	Cake	
43	Groundnut	straw	oil	Cake	
47	Soya beans	straw	oil	Cake	
48	Caster seed	straw	oil	Cake	
75	Pineapple		Juice		
50	Cotton	straw	fibre/seed	oil	cake
51	Tobacco				
53	Pyrethrum	straw	insecticide		
62	Jute		fibre		
86	Cabbage				
87	Tomatoes				
88	Spinach				
89	Carrot				
90	Chillies		dried powder		
91	Amaranths				
92	Pumpkins	leaves			
93	Cucumber				
94	Egg Plant				
95	Water Mellon				
96	Cauliflower				
44	Oil Palm	leaves	oil outer	oil inner	cake
45	Coconut	leaves/husk	milk		
46	Cashewnut	Fruit	fruit juice	shell liquid	
52	Sisal	stems	fibre	oil	
54	Coffee	stems	beans	husks	
55	Tea	stems			
56	Cocoa	stems	cocoa	cocoa butter	
57	Rubber	stems			
58	Wattle	stems			
59	Kapok	stems			
60	Sugar Cane		sugar/juice	molasses	ethanol
61	Cardamom				
71	Banana	leaves/stems	juice		
72	Avocado	stems			
73	Mango	stems	Juice		
74	Paw paw		Juice		
76	Orange	stems	Juice		
77	Grape fruit	stems	Juice		
78	Grapes	stems	Juice		
79	Mandarin	stems	Juice		
80	Guava	stems			
81	Plums	stems			
82	Apples	stems			
83	Pears	stems			
84	Pitches	stems			
85	Lime/Lemon	stems	juice		

Secondary Products: Second most important product from a crop. Eg a household may consider the grain from maize as the primary product and the stems/straw as the secondary product.

Note: Secondary products are NOT the same as bi-products. By-products are the result of a processing activity and are dealt with in section 8.0.

Procedures for Questions

Q 7.6 Details of Secondary Products:

- From the list of crops in Q 7.1.2, 7.2.2 & 7.3.2, ask the respondent if the hh used any secondary products. List the crop names and codes in column 1 and 2 for those crops that the hh used secondary products.
- For the listed crops give details of the secondary products used.
- If no units were sold, enter "0" in columns 8 & 9.

Q 8.0 Agroprocessing & bi-products:

- From the list of crops in Q 7.1.2, 7.2.2 & 7.3.2, ask the respondent if the hh processed any of these crops during the 2002/03 agriculture year. List the crop names and codes in column 1 and 2 for those crops that were processed by the hh.
- For the listed crops give details of the secondary crops used.
- If no main product or bi-product was sold enter "0" in columns 8 & 14.
- If no bi-product was produced enter "0" in columns 10, 11, 12, 13 & 14.

Question Specific Definitions

Agroprocessing and bi-products (Q 8.2)
(Note: Agroprocessing refers to the processing of crops for hh utilisation and for sale)

Main Product (Col 5):
Main Product after processing. Eg for Paddy it may be the polished grain. For Maize it may be flour.

Bi-Product code (Col 11): is the secondary residue after processing, eg for rice it may be the husk. for maize it may be the bran.

Mainly used for (Col 5 & 11):
- Consumed by household can mean eaten or utilised in another way (eg by animals) by the hh.

9.0 CROP STORAGE							
9.1	Did the household store any crops during the 2002/03 agriculture year? (Yes =1, No=2) <input style="float:right;" type="checkbox"/>						
<i>If the response is 'NO' go to section 10.0</i>							
9.2 For each of the listed crops provide the following details on storage							
S/N	Crop Name	Stor	Current	Method	Normal	Main	Estimate
		-ed	Quantity	of	duration	pur	Estimate
		Y=1	Stored	Storage	of	pose	Storage
		No=2	(kg)		storage	loss	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
9.2.1	Maize	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.2	Paddy	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.3	Sorghum/Millet	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.4	Beans, peas, etc	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.5	Wheat	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.6	Coffee	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.7	Cashewnut	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.8	Tobacco	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.9	Cotton	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2.10	Groundnuts/bambara	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Main method of Storage (Col 4)

In locally made traditional structure..1
 In Improved locally made structure .2
 In modern store3
 In Sacks/open drum.....4
 In airtight drum5
 Unprotected pile6
 Other8

Duration of Storage (Col 5)

Less than 3 months1
 Between 3 and 6 months2
 Over 6 months3

Main purpose of storage (Col 6)

Food for the household1
 To sell for higher price2
 seed for planting.....3
 Other8

Storage loss (Col 67)

Little or no loss1
 Up to 1/4 loss2
 Between 1/4and 1/2 loss ..3
 Over 1/2 loss4

10.0 MARKETING							
10.1	Did the household **sell any crops** from the 2002/03 agriculture year? (Yes=1, No=2)						
(If the response is 'YES' or 'NO' go to section 10.2)							
10.2 For **each of the following crops** what was the main **marketing problem** faced by the household during 02/03							

	Crop	Main problem		Crop	Main problem
	(1)	(2)		(1)	(2)
10.2.1	Maize	<input type="checkbox"/>	10.2.9	Vegetables	<input type="checkbox"/>
10.2.2	Rice	<input type="checkbox"/>	10.2.10	Tree Fruits	<input type="checkbox"/>
10.2.3	Sorghum/millet	<input type="checkbox"/>	10.2.11	Cashewnut	<input type="checkbox"/>
10.2.4	Wheat	<input type="checkbox"/>	10.2.12	Cotton	<input type="checkbox"/>
10.2.5	Beans, peas etc	<input type="checkbox"/>	10.2.13	Tobacco	<input type="checkbox"/>
10.2.6	Cassava	<input type="checkbox"/>	10.2.14	Groundnuts/bamabara	<input type="checkbox"/>
10.2.7	Bananas	<input type="checkbox"/>	10.2.15	Trees/timber/poles	<input type="checkbox"/>
10.2.8	Coffee	<input type="checkbox"/>	10.2.16	Fish	<input type="checkbox"/>

10.3 From the list of marketing problems below, for all produce rank the five most important problems

	1	2
10.3.1	Biggest problem	<input type="checkbox"/>
10.3.2	2nd problem	<input type="checkbox"/>
10.3.3	3rd problem	<input type="checkbox"/>
10.3.4	4th problem	<input type="checkbox"/>
10.3.5	5th problem	<input type="checkbox"/>

Market problems (Q10.2 & 10.3 (Col 2))

Open market price too low01 Market too far05 Government Regulatory board problems...09
 No transport02 Farmer association problems06 Lack of market Information10
 Transport cost too high03 Cooperative Problems07 Other (specify)98
 No buyer04 Trade Union problems08 Not Applicable99

| 10.4 | What was the main **reason for not selling** crops during 2002/03 year | | | | | | |

Reason for not selling crops (Q10.4)

Price too low1 Farmer association problems4 Government regulatory board problems7
 Production insufficient to sell.....2 Cooperative Problems.....5 Other (specify)8
 Market too far3 Trade Union problems6 Not Applicable9

Definition and working page for page 8**Question Specific definitions (Section 9.0)****Crop Storage, Section 9****Method of Storage (column 4)**

- **Locally made structure:** The structures that have been inherited from their fore fathers
- **Improved locally made structure:** Traditional structures that have been improved using modern technology.
- **Normal duration of storage:** Often there are stored stocks from different seasons and different years. The normal duration refers to the number of months that the most of the crop is stored for.

Marketing problems Q 10.2 and 10.3 col 2:

- **Farmer Association:** A village or community based group of farmers who have formed an organisation to purchase inputs/sell/store their products in order to achieve a better price for their products.
- **Cooperative Union:** Large inter-village /community organisation set up on a district/regional or national basis for providing inputs, marketing and storing farmers products.
- **Government Regulatory board:** Government control body for setting prices and controlling quality of certain agriculture commodities.

Procedures for Questions**Q 9.2 Details of Crop Storage:**

1. For the crops listed indicate if the household stored any during 2002/03 in column 2.
2. Check that the crops correspond to the crop lists in Q 7.1.2, 7.2.2 & 7.3.2. If there is a difference inquire on the reason why. It is possible that a crop was missed during the enumeration of these questions and if so make necessary amendments
3. For the listed crops give details of storage.

Q 10.2 Details on Crop Marketing:

1. For each of the crops listed indicate the main problems in marketing during 2002/03 in column 2.
2. Check if the crops correspond to the crop lists list in Q 7.1.2, 7.2.2 & 7.3.2. If there is a difference inquire on the reason why. It is possible that a crop was missed during the enumeration of these questions and if so make necessary amendments

Q 10.3 Ranking of market problems:

Rank in order of importance the 5 most important marketing problems from the codes in the Market Problems code box.

Working Area/calculation space

11.0 ON-FARM INVESTMENT								
11.1 Does the household practice irrigation (Yes=1, No=2) <input style="float:right" type="checkbox"/>								
<i>If the response is 'NO' go to section 11.3</i>								
S/N	Source of Irrigation water	Method of obtaining water	Method of application	Irrigatable area (acres)	Area of irrigated land this year (acres)			
	(1)	(2)	(3)	(4)	(5)			
11.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>			
Source of irrigation water (Col 1) River1 Borehole5 Lake2 Canal6 Dam3 Tap Water7 Well4			Method of obtaining water (Col 2) Gravity1 motor pump4 Hand bucket2 Other8 Hand pump3		Method of application (Col 3) Flood1 Sprinkler2 water hose3 Bucket/watering can4			
11.2 Does the household have any erosion control/water harvesting facilities on their land (Yes=1, No=2) <input style="float:right" type="checkbox"/>								
<i>If the response is 'NO' go to section 12.0</i>								
S/N	Type of erosion control/water harvesting structure	Number of structures	Year of construction		Type of erosion control/water harvesting structure	Number of structures	Year of construction	
	(1)	(2)	(3)		(1)	(2)	(3)	
11.2.1	Terraces	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	→	11.2.5	Tree belts	<input type="text"/> <input type="text"/>	
11.2.2	Erosion control bunds	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>		11.2.6	Water harvesting bunds	<input type="text"/> <input type="text"/>	
11.2.3	Gabions/Sandbags	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>		11.2.7	Drainage ditches	<input type="text"/> <input type="text"/>	
11.2.4	Vetiver Grass	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>		11.2.8	Dam	<input type="text"/> <input type="text"/>	

12.0 ACCESS TO FARM INPUTS AND IMPLEMENTS								
12.1 Give details of farm inputs used during the 2002/03 agriculture year								
S/N	Input name	Used Yes=1 No=2	Source	Distance to Source	Source of Finance	Reason for not using	Quality of Input	Plan to use next year Yes =1, No=2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12.1.1	Chemical Fertiliser	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.2	Farm Yard Manure	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.3	Compost	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.4	Pesticide/fungicide	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.5	Herbicide	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.6	Improved Seeds	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1.7	Other	<input type="checkbox"/>	<input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Source (Col 3) Cooperative01 Local farmers group02 Local market/Trade Store ...03 Secondary Market04 Development project05 Crop buyers06 Large scale farm07 Locally produced by hh08 Neighbour09 Other (specify)98 Not applicable99		Distance to source (Col 4) Less than 1 Km1 Between 1 and 3km2 between 3 and 10 km...3 Between 10 and 20 km ...4 20km and above5 not applicable9		Source of finance (Col 5) Sale of farm products .1 Other income generating activities ...2 Remittances3 Bank Loan/Credit4 produced on farm5 Other8 Not applicable9		Reason for not using (Col 6) Not available1 Price too high2 No money to buy3 Too much labour required..4 Do not know how to use...5 Input is of no use6 Locally produced by hh7 Other8 Not applicable9		Quality of input (Col 7) Excellent1 Good2 Average3 Poor4 Does not work .5 not applicable...9

Definition and working page for page 9

Overview of Investment activities (Section 11.0)

Investment activities:

Investment activities refer to medium to long term farm development structures and projects. This can be Irrigation structures, erosion and water harvesting structures or other permanent or semi-permanent investment made on the land that the household owns.

Question Specific Definitions (Q 11.1)

Source of irrigation Water (Col 1): The main source of water from which water is obtained for irrigation.

Method of obtaining water (Col 2): The mechanism by which the water is extracted from the source,

Application Method (Col 3): How the water is applied on the field.

- Flood - is the application of water down the slope of the land by means of gravity
- Sprinkler - is the application of pressurised water through pipes. The water passes through a device which sprays the water onto the crop from above.

Irrigatable Area (Col 4): The area the irrigation system is designed to cover in acres.

Area of irrigated land this year (Col 5): Area of land under irrigation during the 2002/03 agric year. This is the physical area and NOT the cumulative area of 2 or more croppings.

Q 11.1 Irrigation

1. If the hh practices irrigation give details on the main source, main method of obtaining and applying water.
2. Cross check column 8, Q 7.1.2, 7.2.2 & 7.3.2 to check if irrigation was used on any crops.

Question Specific Definitions (Q 11.3)

Erosion control/water harvesting structure (Col 1)

Terraces: Are structures constructed on the side of a hill to provide a level ground to plant crops. They are often used to trap water for paddy/lowland rice production.

Erosion Control Bunds: These are banks of earth/stones built perpendicular to the slope to slow down water and prevent erosion. They are different to Terraces in that the soil behind the banks are not level.

Gabions: A gabion is a wire mesh box filled with rocks/stones and used to control or prevent gully erosion

Sandbags Used to prevent or control gully erosion

Tree belts/Wind breaks: A band of trees planted perpendicular to the prevailing wind whose main purpose is to slow down wind speed

Water Harvesting bunds: A bank of earth constructed horizontal to the slope of the land to trap water. They are usually banana shaped.

Dam: A bank of earth/material which traps river water to form a catchment of water behind it.

Q 11.3 erosion control/water harvesting

1. Number of structures refers to the number of working/maintained structures and does not include derelict or irreparable structures.
2. Year of construction refers to the year that the structures were first constructed. It is not the year that the structures were last maintained.

Farm Inputs (Q 12.1.1 to 12.1.7)

Farm yard Manure: An organic fertiliser made on farm composed of animal dung.

Compost: An organic fertiliser made on farm from decomposed plant material

Pesticide: Chemical used to either protect the plant from or kill insects, birds, molluscs, mites, etc attacking the plant

Fungicide: is a chemical that is used to protect the plant from or control a fungal disease.

Herbicide: A chemical used to control weeds.

Q 12.0 Farm Inputs

1. Indicate in column 1 whether each of the inputs are used or not.
2. Complete cols 3, 4, 6, and 7 for inputs that are used and place '9' in column 5 (for not applicable).
3. Complete cols 5 & 7 for inputs not used.

NOTE: Cross check column 6, 7, 8 & 9, Q 7.1.2, 7.2.2 & 7.3.2 to check what inputs were used.

12.2 Give details of farm implements and assets used and owned by the household during 2002/03 agriculture year									
S/N	Equipment/Asset Name	Number		Used in 2002/03 Yes 1, No=2	Source of Equip-ment	Source of Fin-ance	Reason for not using	Plan to use next year Yes=1, No=2	
		Owned	rent-ed						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
12.2.1	Hand Hoe	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.2	Hand Powered Sprayer	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.3	Oxen	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.4	Ox Plough	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.5	Ox Seed Planter	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.6	Ox Cart	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.7	Tractor	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.8	Tractor Plough	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.9	Tractor Harrow	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12.2.10	Shellers/threshers	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
		Source of equipment (Col 5) Neighbour.....1 Development project5 Cooperative2 Government6 Local farmers association.....3 Large scale farm7 market/Trade store4 Other (specify)8			Source of finance (Col 6) Sale of farm products1 Other income generating activities .2 Remittances3 Bank Loan4 Credit5 Other8 Not applicable9		Reason for not using (Col 7) Not available1 Price too high2 No money to buy/rent.....3 Too much labour required...4 Equipment/Asset of no use ...5 Other8 Not applicable9		
13.0 USE OF CREDIT FOR AGRICULTURE PURPOSES									
13.1	During the year 2002/03 did any of the hh members borrow money for agriculture (Yes = 1, No = 2) (if the response is 'NO' go to section 13.3)							<input type="text"/>	
13.2 Give details of the credit obtained during the agricultural year 2002/03 (if the credit was provided in kind , for example by the provision of inputs, then estimate the value in 13.2.9)									
	use codes to indicate source	Source "a"		Source "b"		Source "c"			
	Provided to Male = 1, Female 2	<input type="text"/>		<input type="text"/>		<input type="text"/>			
		tick the boxes below to indicate the use of the credit		tick the boxes below to indicate the use of the credit		tick the boxes below to indicate the use of credit			
13.2.1	Labour	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.2	Seeds	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.3	Fertilisers	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.4	Agrochemicals	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.5	Tools/equipment	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.6	Irrigation structures	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.7	Livestock	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.8	Other	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.9	Value of Credit (Tsh.)	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.10	Value of repayment (Tsh.)	<input type="text"/>		<input type="text"/>		<input type="text"/>			
13.2.11	Period of repayment (months)	<input type="text"/>		<input type="text"/>		<input type="text"/>			
Source of credit (Q 13.2-a, b and c) Family, friend or relative...1 Commercial Bank.....2 Cooperative3 Savings & credit Soc4 Trader/trade store5 Private individual6 Religious Organisation/NGO/Project ...7 Other (Specify).....8									
13.3	If the answer to question 13.1 above is 'NO' what is the reason for not using Credit?							<input type="text"/>	
Reason for not using credit (Q13.3) Not needed ...1 Not available ...2 Did not want to go into debt....3 Interest rate/cost too high.....4 Did not know how to get credit....5 Difficult bureaucratic procedure ...6 Credit granted too late ...7 Other (specify) ...8 Dont know about credit9									

Definition and working page for page 10**Question Specific Definitions (Q 12.2)****Farm Implements (Col 1):**

Hand powered Sprayer: Knapsack or bicycle pump sprayer

Reason for not using (Col 6): Be careful about using "too much labour required" as this code generally refers to hand hoes only. The codes for this should "**NOT**" be read out to the farmer as a prompt.

Note: If remittance is given as the main source of finance check for a response to remittances in **question 2.2.5**

Question Specific Definitions (Q 13.0)**Section 13.0 Credit for Agriculture Purposes**

Credit is defined as finance in the form of cash or in-kind contributions (eg direct provision of inputs, machinery, livestock or other material) for the purpose of crop and livestock production whereby the value of the credit must be paid back to the borrower. The value of repayment may either be with interest or interest free.

Credit may be paid back in the form of cash or agriculture produce.

Section 13.0 Credit for Agriculture Purposes

Value of credit: is the amount in cash received from the borrower. If the credit was paid in-kind, estimate the value of this.

Value of repayment: This is the amount to be repaid to the borrower and includes the principal amount (value of credit) plus any interest repayment. If the credit is paid back in agriculture produce, then the cash value of this must be estimated.

Period of repayment: This is the time in **months** the borrower has given for full repayment.

Procedures for questions**Q 12.0 Farm Inputs**

1. Indicate in column 2 and 3 whether each of the implements were used or not.
2. Complete cols 4, 5, 6, and 8 for inputs that are used and place '9' in column 7 (for not applicable).
3. Complete cols 7 & 8 for inputs not used.

Section 13.2 Source of agriculture credit

If the farmer obtained credit from more than one source then use the columns "a", "b" and "c" for the different sources of credit. Start with the main source of credit in column "a".

NOTE: Check for use of inputs in column 7, 8 & 9 of questions 7.1.2, 7.2.2 & 7.3.2.

Working Area/calculation space

14.0 TREE FARMING/AGROFORESTRY										
14.1	Did your household have any Planted Trees on your land during 2002/03 agric year? (Yes =1, No=2)									<input type="checkbox"/>
<i>If the response is 'NO' go to section 14.3</i>										
14.2 Give details of the planted trees you have on your land.										
S/N	Tree Code	Number of trees	Where planted	Main Use	Secondary Use	Number of Plank trees Sold	Number of Pole trees Sold	hh utilised		Total Value (Tsh.)
								Number of Poles	Number of Timber	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
14.2.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Where Planted (Col 3)						Use (Col 4 & 5)				
Mostly on field/plot boundaries.....1						Planks/Timber.....1 Shade5				
Mostly scattered in fields2						Poles2 Medicinal.....6				
Mostly in plantation/coppice ...3						Charcoal3 Other8				
						Fuel wood4				
14.3	Does your village have a Community tree planting scheme (Yes=1, No=2)									<input type="checkbox"/>
<i>If the response is 'NO' go to section 15.0</i>										
14.4 Household involvement in community tree planting scheme										
S/N	Distance to community planted forest (Km)	hh Involve-ment	Main purpose	Main use during 2002/03						
	(1)	(2)	(3)	(4)						
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
HH involvement (Col 2)			Main Purpose (Col 3)			Main Use during 02/03(Col 4)				
Only planting1			Erosion control.....1 Environment rehaiblitation ...4			Poles1 Not ready to use5				
Only protection and thinning.....2			Production of poles2 Restoration of wildlife5			Timber logs2 Not allowed to use6				
Only cutting3			production of firewood...3 Other (specify)8			Charcoal3 Other (specify)8				
Most or all activities.....4						Firewood4				

15.0 CROP EXTENSION SERVICES							
15.1	Did your household receive extension advice for crop production during 2002/03 (Yes=1,No=2)						<input type="checkbox"/>
<i>If the response is 'NO' go to section 16.0</i>							
S/N	Extension Provider	Source of extension (Y=1,N=2)	If you pay for extension, what is the cost/yr	Contact farmer /group member (Yes=1,No=2)	No. of visits by extension agency per year	No. of message adopted in the last 3 years	Quality of Service
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
15.1.1	Government extension	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.1.2	NGO/development project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.1.3	Cooperative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.1.4	Large Scale farmer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.1.5	Other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality of service (Col 7)							
Very good1 good2 Average.....3 Poor.....4 No Good5							

Definition and working page for page 11

General Definitions for section 14.0

Tree Farming/Agroforestry

This section refers to trees **planted** for wood (firewood, poles, planks, carving, charcoal, medicinal, etc, but **NOT** fruit trees). It does **not** include naturally growing trees on the farm (unless special care has been given to promote their establishment) or trees growing naturally on the communal areas.

Tree farming is the planting of trees on an area of land for which the main purpose is the production and regeneration of trees for wood on that land.

Agroforestry: is the planting of trees on land for the purpose of complementing other farming activities like crop and animal production. For the purpose of this questionnaire Agroforestry trees are trees planted on boundaries and scattered throughout fields. The main productive unit in this case is Crops and Livestock.

Section 14.2 Details of planted trees

1. Enter the tree codes of the main species grown by the hh
2. If no planks or poles are sold enter a "0" in columns 8, & 9.
3. Total value includes both value of hh utilised trees and sold trees.
4. If no trees were utilised by the hh or sold enter "0" in column 10

Question Specific Definitions

Tree farming (Section 14.0)

Pole trees (Col 6): These are young trees which have a maximum diameter of 6 inches at the bottom and are often used for house construction. They are often the thinning harvest after 3 - 5 years.

Plank trees (Col 7): Trees for sawing into timber planks.

Animal shade: Trees grown for the purpose of providing shade to animals.

Community tree planting scheme (Section 14.3)

Community Forest: A forest planted on the communal land which is planted, replanted or spot planted by the members of the village.

Crop Extension Services (Section 15.1)

Contact Farmer: A farmer who is used by the extension agent as a focal point to demonstrate new interventions. The contact farmer then passes on the message to other farmers

Group member: Member of a group under which the contact farmer leads

Adoption: This is the uptake of an intervention for 2 or more years

Section 15.1 Crop Extension Services

1. For each of the extension providers ask if the hh received extension during 2002/2003 agriculture year and indicate in column 2.
2. For each of the providers complete the rest of the columns

Tree Name Guide Col 1

Code	Local Name	Botanical Name	English Name
01		<i>Senna siamea</i>	Cassod tree
02	Msongoma	<i>Gravellia</i>	Silver oak
03	Mbarika	<i>Azelia quanzensis</i>	Pod mahogany
04	Mkeshia	<i>Acacia spp</i>	Umbrella thorn
05	Msindano	<i>Pinus spp</i>	Pine
06	Mkaratusi	<i>Eucalyptus spp</i>	Red River Gum
07		<i>Cyprus spp</i>	Cyprus tree
08	Mtndoo	<i>Calophyllum inophyllum</i>	
09	Mvule	<i>Melicia excelsa</i>	Iroko
10	Mvinji	<i>Casurina equisetifolia</i>	Whistling oak
11	Msaji	<i>Tectona grandis</i>	Teak
12	Mkungu wa kienyeji	<i>Terminalia catapa</i>	Sea almond
13	Mkungu india	<i>Terminilia ivorensis</i>	Black afara
14	Muhumula	<i>Maesopsis berchemoides</i>	
15			

Code	Local Name	Botanical Name	English Name
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

15.2 Crop Extension Messages									
S/N	Extension Message	Received Advice Yes=1 No=2	Adopted Yes=1 No=2	Source of Crop Extension	S/N	Extension Message	Received Advice Yes=1 No=2	Adopted Yes=1 No=2	Source of Crop Extension
	(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)
15.2.1	Spacing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.9	Crop Storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.2	Use of agrochemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.10	Vermin control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.3	Erosion control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.11	Agro-processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.4	Organic fertiliser use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.12	Agro-forestry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.5	Inorganic fertiliser use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.13	Bee Keeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.6	Use of improved seed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.14	Fish Farming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.7	Mechanisation/LST	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.2.15	Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2.8	Irrigation Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Source of extension (Col 4) Government1 NGO/Dev project ..2 Cooperative ...3 Large scale farmer4 Other (Specify) ...8 Not applicable9									

16.0 LIVELIHOOD CONSTRAINTS				
From the list of constraints on the right select:				List of constraints
16.1	the 5 most important problems		16.2	the 5 least important problems
	Order of most importance	Constraint		Order of least importance
	(1)	(2)		(1)
16.1.1	most important	<input type="checkbox"/>	16.2.1	Least important
16.1.2	2nd most important	<input type="checkbox"/>	16.2.2	2nd least important
16.1.3	3rd most important	<input type="checkbox"/>	16.2.3	3rd least important
16.1.4	4th most important	<input type="checkbox"/>	16.2.4	4th least important
16.1.5	5th most important	<input type="checkbox"/>	16.2.5	5th least important
17.0 ANIMAL CONTRIBUTION TO CROP PRODUCTION				
17.1	Did you use Draft animals to cultivate your land during 02/03 (Yes=1, No=2) <input type="checkbox"/>			
(If no, go to question 17.2)				
S/N	Type of Draft	Number owned	Number used	Area cultivated (acres)
	(1)	(2)	(3)	(4)
17.1.1	Oxen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.1.2	Bulls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.1.3	Cows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.1.4	Donkeys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.2	Did you apply organic fertiliser during 02/03 (Yes=1, No=2) <input type="checkbox"/>			
(If no, go to question 18)				
S/N	Type of organ Fertiliser	Area applied (acres)		
	(1)	(2)		
17.2.1	FYM	<input type="checkbox"/>		
17.2.2	Compost	<input type="checkbox"/>		

1. Access to Land
2. Ownership of Land
3. Poor farm Inputs
4. Soil Fertility
5. Access to improved seed
6. Irrigation facilities
7. Access to chemical Inputs
8. Cost of Inputs
9. Extension Services
10. Access to forest resources
11. Hunting and Gathering
12. Access to potable water
13. Access to credit
14. Harvesting
15. Threshing
16. Storage
17. Processing
18. Market Information
19. Transport costs
20. Distraction by animals
21. Stealing
22. Pests and Diseases
23. Local government taxation
24. Access to off Farm Income

Definitions and working page for page 12

Question Specific Definitions

Crop Extension Advice (Section 15.2)

Mechanisation/LST: LST means Labour Saving Technology

Section 16.0 Livelihood constraints

16.1 List the five most important problems in order of most importance:

1. Read out the list of constraints to the respondent and ask him to select the ones that are a problem. Place a ✓ against the constraints that are a problem.
2. Read the selected constraints and ask the farmer to select 5 which create the largest problems
3. Ask the farmer to list these in order of importance and enter in column 2

16.2 List the five least important problems in order of least importance:

1. Read out the list of constraints to the respondent and ask him to select the ones that are **NOT** a problem. Place an ✗ against the constraints that are **NOT** a problem.
2. Read the selected constraints and ask the farmer to select 5 which create the least problems
3. Ask the farmer to list these in order of least importance and enter in column 2

18.0 CATTLE POPULATION, INTAKE AND OFFTAKE															
18.1 Did the household own, raise or manage any CATTLE during 2002/03 agriculture year? (Yes =1 No =2) <input type="checkbox"/>															
(If no go to section 19.0)															
18.2 Cattle Population as of 1st October 2003					18.3 Cattle Intake during 2002/2003										
S/N	Cattle type <i>(1)</i>	Number of Indigenous <i>(2)</i>	Number of Improved		Total <i>(5)</i>	S/N	Number Purchased <i>(6)</i>	Number given /obtained <i>(7)</i>	Number Born <i>(8)</i>	Total Intake of Cattle <i>(9)</i>	Average Value per head <i>(10)</i>				
			Beef <i>(3)</i>	Dairy <i>(4)</i>											
18.2.1	Bulls	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.3.1	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
18.2.2	Cows	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.3.2	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
18.2.3	Steers	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.3.3	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
18.2.4	Heifers	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.3.4	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
18.2.5	Male Calves	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.3.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>				
18.2.6	Female Calves	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.3.6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>				
Grand Total					<input type="text"/>	Total Intake					<input type="text"/>				
18.4 Cattle Offtake during 2002/2003								18.5 Cattle diseases							
S/N	Cattle type <i>(1)</i>	Number Sold/traded <i>(2)</i>	Number con sumed by hh <i>(3)</i>	Number given away/stolen <i>(4)</i>	Number died <i>(5)</i>	Total Cattle Offtake <i>(6)</i>	Average value per head <i>(7)</i>	S/N	Disease/ parasite <i>(1)</i>	Number Infected <i>(2)</i>	Number Treated <i>(3)</i>	No. Rec -overed <i>(4)</i>	Number Died <i>(5)</i>	Last vacci nated <i>(6)</i>	Main Sou -rce <i>(7)</i>
									<i>(1)</i>						
18.4.1	Bulls	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.5.1	Tick Borne diseases	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
18.4.2	Cows	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.5.2	CBPP	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
18.4.3	Steers	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.5.3	Trypanosomiasis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
18.4.4	Heifers	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.5.4	Lumpy Skin Disease	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
18.4.5	Male Calves	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.5.5	Helmenthioitis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
18.4.6	Female Calves	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	18.5.6	FMD	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total Offtake						<input type="text"/>	<p><u>Last Vaccinated (Col 6)</u></p> <p>20031 20004 20022 before 20005 20013 Not Vaccinated...6</p> <p><u>Main Source of vaccine (Col 7)</u></p> <p>Private Vet Clinic ..1 Other8 District Vet Clinic ..2 Not applicable9 NGO/Project.....3</p>								
18.6 Milk Production							<p><u>Sold to Q18.6 Col 5)</u></p> <p>Neighbour.....1 Largescale farm ..5 Local Market.....2 Trader at Farm ...6 Secondary Market ...3 Did not sell7 Processing industry .4 Other8</p>								
S/N	Season <i>(1)</i>	Litres of milk/day <i>(2)</i>	No. of cattle milked/day <i>(3)</i>	Value/litre <i>(4)</i>	Sold to <i>(5)</i>	Sold/day (Litres) <i>(6)</i>									
18.6.1	Wet Season	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>									
18.6.2	Dry Season	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>									

Definitions and working page for page 13**General definitions for page 13**

Cattle Intake during 2002/03: Cattle purchased, given or born which increases the number of cattle in the herd.

Cattle Offtake during 2002/03:

Cattle removed from the herd, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 18.0)**Cattle type (Q 18.2 & 18.4, Col 1)**

Bull: Mature **Uncastrated** male cattle used for breeding

Cow: Mature female cattle that has given birth at least once

Steer: Castrated male cattle over 1 year

Heifer: Female cattle of 1 year up to the first calving

Calves: Young cattle under 1 year of age

Average Value per Head (Q 18.3, (Col 7 & 9) & 18.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Cattle vaccination (18.5 col 1)

ECF: East Coast Fever

FMD: Foot and Mouth Disease

CBPP: Contagious Bovine Pleura Pneumonia

Section 18.0 Cattle Population, Intake & Offtake.

NOTE: Section 18.1 is for the current population (as of 1st October 2003);
Section 18.2 and 18.3 is for movement in and out of the herd
during the 2002/03 agriculture year.
Section 18.4 is for diseases encountered during the agriculture year.

1. If the household has cows, you would normally expect them to have calves in column 8

2. If calves are reported in column 2, 3, or 4 (18.2.6, 18.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of cattle the importance of this must be reflected in Q 2.2.3

Section 18.5 If cattle are reported to have died in Column 5 then at least that number should be reported in 18.4 col 4

Working area for page 13

19.0 GOAT POPULATION, INTAKE AND OFFTAKE															
19.1 Did the household own, raise or manage any GOATS during the 2002/03 agriculture year? (Yes =1 No =2) <input type="checkbox"/>															
19.2 Goat Population as of 1st October 2003					19.3 Goat Intake during 2002/2003										
S/N	Goat type	Number of Indigenous	Number of Improved		Total	S/N	Number Purchased	Number given /obtained	Number Born	Total Intake of Goats	Average Value per head				
	(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)				
19.2.1	Billy Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.1	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
19.2.2	Castrated Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.2	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
19.2.3	She Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.3	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
19.2.4	Male Kid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.4	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>				
19.2.5	She Kid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.3.5	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>				
Grand Total					<input type="text"/>	Total Intake					<input type="text"/>				
19.4 Goat Offtake during 2002/2003								19.5 Goat diseases							
S/N	Goat type	Number Sold/traded	Number consumed by hh	Number given away/stolen	Number died	Total Goat Offtake	Average value per head	S/N	Disease/parasite	Number Infected	Number Treated	No. Rec-oved	Number Died	Last vacci nated	Main Sou -rce
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(1)	(2)	(3)	(4)	(5)	(6)	(7)
19.4.1	Male goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>								
19.4.2	Castrated Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.5.1	Foot Rot	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
19.4.3	She Goat	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.5.2	CC PP	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
19.4.4	Male Kid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.5.3	Helminthiosis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
19.4.5	She Kid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	19.5.4	Tetanus	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Total Offtake						<input type="text"/>		19.5.5	Mange	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
19.6 Milk Production							Sold to Q19.6 Col 5) Neighbour.....1 Largescale farm ..5 Local Market.....2 Trader at Farm ...6 Secondary Market ...3 Did not sell7 Processing industry .4 Other8				Last Vaccinated (Col 6) 20031 20004 20022 before 20005 20013 Not Vaccinated...6				
S/N	Season	Litres of milk/day	No. of Goats milked/day	Value/litre	Sold to	Sold/day (Litres)									
	(1)	(2)	(3)	(4)	(5)	(6)									
19.6.1	Wet Season	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>									
19.6.2	Dry Season	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>									
							Main Source of vaccine (Col 7) Private Vet Clinic ..1 Other8 District Vet Clinic ..2 Not Vaccinable9 NGO/Project.....3								

Definitions and working page for page 14**Goat definitions for page 14**

Goat Intake during 2002/03: Goat purchased, given or born which increases the number of goats in the herd.

Goat Offtake during 2002/03:

Goat removed from the herd, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 19.0)**Goat type (Q 19.2 & 19.4, Col 1)**

Billy Goat (he-goat): Mature **Uncastrated** male goat used for breeding

Castrated goat: Male goat that has been castrated.

She Goat: Mature female goat over 9 months of age

Kid: Young goat under 9 months of age.

Average Value per Head (Q 19.3, (Col 7 & 9) & 19.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Goat vaccination (19.5 col 1)

FMD: Foot and Mouth Disease

CCPP: Contagious Caprine Pleura Pneumonia

LSD: Lumpy Skin Disease

Section 19.0 Goat Population, Intake & Offtake.

NOTE: Section 19.1 is for the current population (as of 1st October 2003); Section 19.2 and 18.3 is for movement in and out of the herd during the 2002/03 agriculture year. Section 19.4 is for diseases encountered during the agriculture year.

1. If the household has she goats, you would normally expect them to have kids in column 8
2. If kids are reported in column 2, 3, or 4 (19.2.6, 19.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of goats the importance of this must be reflected in Q 2.2.3

Section 19.5 If goats are reported to have died in Column 5 then at least that number should be reported in 19.4 col 4

Working area for page 14

20.0 SHEEP POPULATION, INTAKE AND OFFTAKE															
20.1	Did the household own, raise or manage any SHEEP during the 2002/03 agriculture year? (Yes =1 No =2) <input type="checkbox"/>														
(If no go to section 21.0)															
20.2	Sheep Population as of 1st October 2003				20.3	Sheep Intake during 2002/2003									
S/N	Sheep type	Number of Indigenous	Number of Improved		Total	S/N	Number Purchased	Number given /obtained	Number Born	Total Intake of Sheep	Average Value per head				
	(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)				
20.2.1	Ram	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	20.3.1	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
20.2.2	Castrated Sheep	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	20.3.2	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
20.2.3	She Sheep	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	20.3.3	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	<input type="text"/>				
20.2.4	Male lamb	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	20.3.4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>				
20.2.5	She lamb	<input type="text"/>	<input type="text"/>	X X X	<input type="text"/>	20.3.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>				
Grand Total					<input type="text"/>	<input type="text"/>									
20.4	Sheep Offtake during 2002/2003						20.5	Sheep diseases							
S/N	Sheep type	Number Sold/traded	Number consumed by hh	Number given away/stolen	Number died	Total Sheep Offtake	Average value per head	S/N	Disease/parasite	Number Infected	Number Treated	No. Rec-overed	Number Died	Last vaccinated	Main Source
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(1)	(2)	(3)	(4)	(5)	(6)	(7)
20.4.1	Ram	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
20.4.2	Castrated Sheep	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	20.5.1	Foot Rot	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
20.4.3	She Sheep	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	20.5.2	CC PP	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
20.4.4	Male lamb	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	20.5.3	Helminthiosis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X
20.4.5	She lamb	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	20.5.4	Trypanosomiasis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total Offtake						<input type="text"/>									
										<p>Last Vaccinated (Col 6) 20031 20004 20022 before 20005 20013 Not Vaccinated...6</p> <p>Main Source of vaccine (Col 7) Private Vet Clinic ..1 Other8 District Vet Clinic ..2 Not applicable9 NGO/Project.....3</p>					

Definitions and working page for page 15**Sheep definitions for page 15**

Sheep Intake during 2002/03: Sheep purchased, given or born which increases the number of Sheep in the herd.

Sheep Offtake during 2002/03:
Sheep removed from the herd, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 20.0)**Sheep type (Q 20.2 & 20.4, Col 1)**

Ram: Mature **Uncastrated** male goat used for breeding

Castrated sheep: Male sheep that has been castrated.

Ewe: Mature female sheep over 9 months of age

Lamb: Young sheep under 9 months of age.

Average Value per Head (Q 20.3, (Col 7 & 9) & 20.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Sheep vaccination (20.5 col 1)

FMD: Foot and Mouth Disease

CCPP: Contagious Caprine Pleura Pneumonia

Section 20.0 Sheep Population, Intake & Offtake.

NOTE: Section 20.1 is for the current population (as of 1st October 2003);
Section 20.2 and 20.3 is for movement in and out of the herd during the 2002/03 agriculture year.
Section 20.4 is for diseases encountered during the agriculture year.

1. If the household has ewes, you would normally expect them to have kids in column 8
2. If lambs are reported in column 2, 3, or 4 (20.2.6, 20.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of Sheep the importance of this must be reflected in Q 2.2.3

Section 20.5 If Sheep are reported to have died in Column 5 then at least that number should be reported in 20.4 col 4

Working area for page 15

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21.0 PIG POPULATION AND PRODUCTION															
21.1		Did the household own, raise or manage any PIGS during the 2002/03 agriculture year (Yes =1 No =2) <input type="checkbox"/>													
21.2		PIG Population as of 1 st October 2003											21.3 Pig increase during 2002/2003		
S/N	Pig type	Number													
	(1)	(2)													
21.2.1	Boar	<input type="text"/>													
21.2.2	Castrated male	<input type="text"/>													
21.2.3	Sow/Gilt	<input type="text"/>													
21.2.4	Male piglet	<input type="text"/>													
21.2.5	She piglet	<input type="text"/>													
Grand Total		<input type="text"/>													
21.4 Pig decrease during 2002/2003								21.5 Pig diseases/pests/conditions							
S/N	Pig type	Number Sold/traded	Number consumed by hh	Number given away/stolen	Number died	Total Pig Offtake	Average value per head	S/N	Disease/ parasite	Number Infected	Number Treated	No. Rec- overed	Number Died	Last vacci- nated	Main Sou- rce
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(1)	(2)	(3)	(4)	(5)	(6)	(7)
21.4.1	Boar	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
21.4.2	Castrated male	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	21.5.1	Anthrax	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
21.4.3	Sow/Gilt	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	21.5.2	ASF	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
21.4.4	Male piglet	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	21.5.3	Anemia	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21.4.5	She piglet	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	21.5.4	Helmenthiosis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Total Offtake						<input type="text"/>									
22.0 LIVESTOCK PEST & PARASITE CONTROL								22.3 Do you normally encounter a tick problem (Yes=1, No=2) <input type="checkbox"/>		Last Vaccinated (Col 6) 2003 ..1 20004 2002 ..2 before 20005 2001 ...3 Not Vaccinated.6					
								(If the response is 'NO' go to section 22.5)							
22.1 Did you deworm your animals during 2002/03 (Yes=1, No=2) <input type="checkbox"/>								22.4 Which methods of tick control did you use <input type="checkbox"/>		Main Source (Col 7) Private Vet Clinic ..1 District Vet Clinic ..2 NGO/Project3 Other8 Not applicable9					
(If the response is 'NO' go to section 22.3)								Control method (Q 22.4) None..1 Spraying ..2 Dipping..3 Smearing ..4 Other.8							
22.2 Which animals did you deworm ? (Tick appropriate boxes)								22.5 Do you normally encounter a tsetse fly problem (Y=1, N=2) <input type="checkbox"/>		Main Source (Col 7) Private Vet Clinic ..1 District Vet Clinic ..2 NGO/Project3 Other8 Not applicable9					
Cattle <input type="checkbox"/> Goats <input type="checkbox"/> Sheep <input type="checkbox"/> Pigs <input type="checkbox"/>								22.6 Which methods of control did you use <input type="checkbox"/>							

Definitions and working page for page 16**Pigs definitions for page 16**

Pig Intake during 2002/03: Pigs purchased, given or born which increases the number of Pigs in the production unit.

Pig Offtake during 2002/03:

Pigs removed from the production unit, either by selling, hh consumption, given away or stolen.

Question Specific Definitions (Section 21.0)**Pigs type (Q 21.2 & 21.4, Col 1)**

Boar: Mature **Uncastrated** male pig used for breeding

Castrated Pig: Male pig that has been castrated.

Sow: Mature female pig that has given birth to at least one litter of pigs.

Gilt: Female pig of 9 months up to the first farrowing.

Piglet: Young pig under 3 months of age.

Average Value per Head (Q 21.3, (Col 7 & 9) & 21.4 (Col 3, 5 & 7))

In these columns give the average value per head during 2002/03. For given, traded, consumed by the hh & given away/stolen estimate the value.

Pig vaccination (21.5 col 1)

ASF: African Swine Fever

Section 21.0 Pig Population, Intake & Offtake.

NOTE: Section 21.1 is for the current population (as of 1st October 2003); Section 21.2 and 21.3 is for movement in and out of the herd during the 2002/03 agriculture year. Section 21.4 is for diseases encountered during the agriculture year.

1. If the household has sows, you would normally expect them to have piglets in column 8
2. If piglets are reported in column 2, 3, or 4 (20.2.6, 20.2.5) then there must be at least that number repeated in column 8

Note: If the farmer reports sales of Pigs the importance of this must be reflected in Q 2.2.3

Section 20.5 If Pigs are reported to have died in Column 5 then at least that number should be reported in 20.4 col 4

Working area for page 16

|

23.0 Other Livestock currently available and details of consumption and sales during the last 12 months										
	Animal type	Current		Sold during 2002/03		Consumed during 2002/03				
		Number		Number	Average Value/head	Number	Average Value/head			
		(1)		(2)	(3)	(4)	(5)			
23.1	Indigenous Chicken	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.2	Layer	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.3	Broiler	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.4	Ducks	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.5	Turkeys	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.6	Rabbits	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.7	Donkeys	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
23.8	Horses	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X X X	X X X X X			
23.9	Other	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
24.0	CHICKEN DISEASES	Number infected		Number Treated		Number Died		Number Recovered		
24.1	Newcastle Disease	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
24.2	Gumboro	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
24.3	Coccidiosis	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
24.4	Chorysa	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
24.5	Fowl typhoid	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
25.0	LIVESTOCK PRODUCT	Sold during 2002/03				Consumed/utilised during 2002/03				
		Number				Average Value/unit				
25.1	Eggs	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	<input type="text"/>	<input type="text"/>	<input type="text"/>	
25.2	Hides	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
25.3	Skins	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
26.0	List in order of importance the outlets for the sale of Livestock						27.0 Access to functional Livestock structures /accessories			
S/N	Impo-rtance of outlet	Outlets for Cattle	Out-lets for Goat	Outlets for Sheep	Outl-ets for Pigs	Outlets for Chick-ens	S/N	Type of structure/ accessory	Source of Structure	Distance to struct-ure (Km)
	(1)	(2)	(3)	(4)	(5)	(6)		(1)	(2)	(3)
26.1	1st	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.1	Cattle Dip	<input type="text"/>	<input type="text"/>
26.2	2nd	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.2	Spray Race	<input type="text"/>	<input type="text"/>
26.3	3rd	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.3	Hand powered sprayer	<input type="text"/>	<input type="text"/>
26.4	4th	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.4	Cattle crush	<input type="text"/>	<input type="text"/>
26.5	5th	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	27.5	Primary Market	<input type="text"/>	<input type="text"/>
Outlet code (Col 2, 3, 4 & 5) Trader at farm1 Abattoir/factory.....5 Local Market2 Another farmer6 Secondary market/auction.....3 Other (Specify).....8 Neighbour4							27.6	Secondary Market	<input type="text"/>	<input type="text"/>
Source of structure (Q27.0 - Col 2) Owns1 NGO6 Cooperative2 Large scale farm7 Local farmers association3 Other8 Gov extension/veterinary4 Not applicable9 Development project5							27.7	Abattoir	<input type="text"/>	<input type="text"/>
							27.8	Slaughter Slab	<input type="text"/>	<input type="text"/>
							27.9	Hide/skin shed	<input type="text"/>	<input type="text"/>
							27.10	Input supply	<input type="text"/>	<input type="text"/>
							27.11	Veterinary Clinic	<input type="text"/>	<input type="text"/>
							27.12	Village holding ground	<input type="text"/>	<input type="text"/>
							27.13	village watering point/dam	<input type="text"/>	<input type="text"/>
							27.14	Drencher	<input type="text"/>	<input type="text"/>

Definition and working page for page 17
Question Specific Definitions Section 26.0)
Question Specific Definitions Section 27.0)
Access to functional Livestock Structures/accessories (Section 27.0):

NOTE: The structures must be functional. If they are not working/derelect then they should not be included. The distance to the next nearest functional structure should be taken.

Spray Race: A fixed spray structure on an animal race for spraying acaricide

Cattle crush: Corridor structure for restraining cattle.

Abattoir: Large building designed for slaughtering a large amount of animals. It normally has complex structures to assist in the slaughter and storage and a high level of hygiene is maintained.

Slaughter Slab: Concrete slab designed for slaughtering a small amount of animals

Hides: obtained from Cattle

Skins: Obtained from sheep and goats

Hide/Skin Shed: Shed for curing/tanning animal skins and hides

Village holding Pen: Enclosure for containing large amount of livestock which is owned communally.

Drencher: Device for orally administering medicine to livestock. If no product was sold in 2002 enter "0" in columns 6, 7 & 9.

Procedures for questions
Section 23.0 - Other Livestock:

1. The current number includes both adult and young animals. For example The number of chickens in col 1 would include adults and chicks.

Section 26.0 - Outlets for livestock:

Using the codes enter the outlets for the sale of different livestock in order of importance. If there are, for example, only 2 outlets mark the rest with a "X".

28.0 FISH FARMING

28.1 Was **Fish farming** carried out by this household during 2002/2003? (Yes =1, No=2) (If the response is 'NO' go to section 29.0)

28.2 Specify details of **fish farming practices**

S/N	Product ion unit number	Fish farming system	Size of unit/pond (m2)	Source of fingerling	frequency of stocking (No/year)	Number of stocked fish			Number of fish harvested	weight of fish harvested	weight of fish sold	Mainly sold to
						Tilapia	Carp	Other				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
28.1.1	1	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
28.1.2	2	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
28.1.3	3	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Farming System (Col 2)
 Natural Pond...1 Natural Lake...3 Other...8
 Dug out pond...2 Water reservoir...4

Source of fingerlings (Col 4)
 Own pond...1 NGO/Project...3 Private trader...5
 Government Institution...2 Neighbour...4 Other...8

Mainly sold to (Col 12)
 Neighbour...1 Secondary Market...3 Large scale farm...5 Did not sell...7
 Local Market...2 Processing industry...4 Trader at Farm...6 Other...8

29.0 LIVESTOCK EXTENSION

29.1 Did you receive **livestock extension advice** during 02/03 (Yes=1,No=2) (If the response is 'NO' go to section 30.0)

S/N	Livestock Extension Message	Received Advice Yes=1,No=2	Adopted Yes=1 No=2	Source of Livestock Extension
	(1)	(2)	(3)	(4)
29.1.1	Feed and Proper feeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.2	Housing (Goat, Dairy, Poultry, Pigs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.3	Proper Milking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.4	Milk Hygiene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.5	Disease control (dipping/spraying)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.6	Herd/Flock size and selection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.7	Pasture Establishment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.8	Group formation and strengthening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.9	Calf rearing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.10	Use of improved bulls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.1.11	Other livestock extension	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source of livestock extension (Col 4)
 Government...1 NGO/Dev project...2 Cooperative...3 Large scale farmer...4 Other (Specify)...8

29.2 For the following **Livestock Extension Service Providers** give details

S/N	Extension Provider	If you pay for extension, what is the cost/yr	Contact farmer/group member (Y=1,N=2)	No. of visits by extension agency/year	No. of mess -ages adopted in the last 3 yrs	Quality of Service
	(1)	(2)	(3)	(4)	(5)	(6)
29.2.1	Government	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
29.2.2	NGO/dev project	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
29.2.3	Cooperative	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
29.2.4	Large Scale farmer	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
29.2.5	Other.....	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Quality of service (Col 6) Very good...1 good...2 Average...3 Poor...4 No Good...5

30.0 GOVERNMENT REGULATORY PROBLEMS

31.1 Did you face problems with government regulations during 2002/03 (Y=1, N=2) (If the response is no go to section 31.0)

List in order of importance

	Problem code	Problem code
30.1.1	1st	Land ownership by government...1 Restriction of sale between regions...2
30.1.2	2nd	Import of food items...3
30.1.3	3rd	Other (specify)...8

Definitions and working page for page 18**General definitions for Section 28.0**

Fish farming: Refers to the rearing/production of fish. It is different to fishing in that the fish have to be reared and fed in fish farming. Fishing traps or captures naturally occurring fish in rivers, lakes and the sea and should not be included in this section.

Question Specific Definitions (Section 28.2)

Production unit number (Col 1): A production unit is a pond river/lake which is treated as a separate entity for the production of fish eg it may be by virtue of manageable size, maturity of fish, type of fish etc. Eg a farmer may have 3 fish ponds. (each one is a separate production unit).

Frequency of stocking (Col 5): What is the number of times the farmer puts new fingerlings into the pond each year.

Fingerlings: These are young immature fish used for stocking ponds.

Sold: (Col 10 & 11)

If no fish were sold enter "0" in column 10 and 11)

Livestock Extension Services (Section 29.1)

Adopted (Col 3): This is the uptake of an intervention for 2 or more years

Livestock Extension Service providers (Section 29.2)

Contact Farmer: A farmer who is used by the extension services as a focal point to demonstrate new interventions to. The contact farmer then passes on the message to other farmers

Adopted (Col 5): This is the uptake of an intervention for 2 or more years

Working area for page 18

31.0 LABOUR USE				32.0 SUBSISTENCE vs NON-SUBSISTENCE																																																				
31.1 Who is mainly responsible for undertaking the following tasks:				32.1 Indicate if any members of the household was involved in the following activities and assess the percentage used for subsistence/consumption by the household:																																																				
S/N	Activity	Tick if carried out by hh	Main responsibility	S/N	Activity	Tick if hh was involved in activity	Estimate % used for subsistence	Estimate % used for no subsistence	Check Total																																															
	(1)	(2)	(3)		(1)	(2)	(3)	(4)	(5)																																															
31.1.1	Land Clearing	<input type="checkbox"/>	<input type="checkbox"/>	32.1.1	Crop production	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.2	Soil preparation (by hand)	<input type="checkbox"/>	<input type="checkbox"/>	32.1.2	Livestock production	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.3	Soil preparation (oxen/tractor)	<input type="checkbox"/>	<input type="checkbox"/>	32.1.3	Vegetable production	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.4	Planting	<input type="checkbox"/>	<input type="checkbox"/>	32.1.4	Tree cutting for firewood	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.5	Weeding	<input type="checkbox"/>	<input type="checkbox"/>	32.1.5	Tree logging for poles	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.6	Crop Protection	<input type="checkbox"/>	<input type="checkbox"/>	32.1.6	Tree logging for timber	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.7	Harvesting	<input type="checkbox"/>	<input type="checkbox"/>	32.1.7	Tree logging for charcoal	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.8	Crop processing	<input type="checkbox"/>	<input type="checkbox"/>	32.1.8	fishing	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.9	Crop marketing	<input type="checkbox"/>	<input type="checkbox"/>	32.1.9	bee keeping	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.10	Cattle rearing/husbandry	<input type="checkbox"/>	<input type="checkbox"/>	32.1.10	employment/off farm	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.11	Cattle herding	<input type="checkbox"/>	<input type="checkbox"/>	32.1.11	employment/off farm	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.12	Cattle marketing	<input type="checkbox"/>	<input type="checkbox"/>	32.1.12	Remittances	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																															
31.1.13	Goat/sheep rearing/husbandry	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.14	Goat and sheep herding	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.15	Goat and sheep marketing	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.16	Milking	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.17	Pig rearing/husbandry	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.18	Poultry keeping	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.19	Collecting Water	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.20	Collecting Firewood	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.21	Pole cutting	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.22	Timber wood cutting	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.23	Building/maintaining house	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.24	Making Beer	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.25	Bee keeping	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.26	Fishing	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.27	Fish farming	<input type="checkbox"/>	<input type="checkbox"/>																																																					
31.1.28	Off-farm income generation	<input type="checkbox"/>	<input type="checkbox"/>																																																					
Responsibility (Col 3) HH head alone1 Girls6 Adult Males2 Boys & Girls7 Adult Females.....3 All household members.....8 Adults.....4 Hired labour9 boys 5				33.0 ACCESS TO INFRASTRUCTURE & OTHER SERVICES																																																				
				<table border="1"> <thead> <tr> <th>S/N</th> <th>Type of service</th> <th>Distance in Km</th> <th>S/N</th> <th>Type of service</th> <th>Distance in Km</th> </tr> <tr> <td></td> <td>(1)</td> <td>(2)</td> <td></td> <td>(1)</td> <td>(2)</td> </tr> </thead> <tbody> <tr><td>33.1</td><td>Primary School</td><td><input type="text"/></td><td>32.7</td><td>Feeder Road</td><td><input type="text"/></td></tr> <tr><td>33.2</td><td>Secondary School</td><td><input type="text"/></td><td>32.8</td><td>All weather road</td><td><input type="text"/></td></tr> <tr><td>33.3</td><td>Health Clinic</td><td><input type="text"/></td><td>32.9</td><td>Tarmac road</td><td><input type="text"/></td></tr> <tr><td>33.4</td><td>Hospital</td><td><input type="text"/></td><td>32.10</td><td>Primary market</td><td><input type="text"/></td></tr> <tr><td>33.5</td><td>District Capital</td><td><input type="text"/></td><td>32.11</td><td>Secondary market</td><td><input type="text"/></td></tr> <tr><td>33.6</td><td>Regional Capital</td><td><input type="text"/></td><td>32.12</td><td>Tertiary market</td><td><input type="text"/></td></tr> </tbody> </table>					S/N	Type of service	Distance in Km	S/N	Type of service	Distance in Km		(1)	(2)		(1)	(2)	33.1	Primary School	<input type="text"/>	32.7	Feeder Road	<input type="text"/>	33.2	Secondary School	<input type="text"/>	32.8	All weather road	<input type="text"/>	33.3	Health Clinic	<input type="text"/>	32.9	Tarmac road	<input type="text"/>	33.4	Hospital	<input type="text"/>	32.10	Primary market	<input type="text"/>	33.5	District Capital	<input type="text"/>	32.11	Secondary market	<input type="text"/>	33.6	Regional Capital	<input type="text"/>	32.12	Tertiary market	<input type="text"/>
S/N	Type of service	Distance in Km	S/N	Type of service	Distance in Km																																																			
	(1)	(2)		(1)	(2)																																																			
33.1	Primary School	<input type="text"/>	32.7	Feeder Road	<input type="text"/>																																																			
33.2	Secondary School	<input type="text"/>	32.8	All weather road	<input type="text"/>																																																			
33.3	Health Clinic	<input type="text"/>	32.9	Tarmac road	<input type="text"/>																																																			
33.4	Hospital	<input type="text"/>	32.10	Primary market	<input type="text"/>																																																			
33.5	District Capital	<input type="text"/>	32.11	Secondary market	<input type="text"/>																																																			
33.6	Regional Capital	<input type="text"/>	32.12	Tertiary market	<input type="text"/>																																																			
				<table border="1"> <thead> <tr> <th>S/N</th> <th>Type of service</th> <th>Distance in Km</th> <th>No of visits/year</th> <th>Satisfied with service</th> </tr> <tr> <td></td> <td>(1)</td> <td>(2)</td> <td>(3)</td> <td>(4)</td> </tr> </thead> <tbody> <tr><td>33.13</td><td>Vet Clinic</td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> <tr><td>33.14</td><td>Extension Centre</td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> <tr><td>33.15</td><td>Research Station</td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> <tr><td>33.16</td><td>Plant protection Lab</td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> <tr><td>33.17</td><td>Land registration office</td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> <tr><td>33.18</td><td>Livestock Dev Centre</td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> </tbody> </table>					S/N	Type of service	Distance in Km	No of visits/year	Satisfied with service		(1)	(2)	(3)	(4)	33.13	Vet Clinic	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.14	Extension Centre	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.15	Research Station	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.16	Plant protection Lab	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.17	Land registration office	<input type="text"/>	<input type="text"/>	<input type="text"/>	33.18	Livestock Dev Centre	<input type="text"/>	<input type="text"/>	<input type="text"/>								
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Satisfied with service (Col 4) Very good1 Average.....3 No good5 Good2 Poor4 Not applicable 9																																																								

Definition and working page for page 19**Question specific definitions (Section 31.1)****Activity (Col 1):**

Land Clearing: Refers to removing trees/bush/grass prior to ploughing

Soil Preparation: Refers to the seedbed preparation (ploughing, harrowing, etc).

Cattle Rearing: Tending to cattle at home, eg assisting with births, castration, etc. Different livestock keeping activity to herding.

Cattle Herding: Moving livestock from place to place for grazing and water. If herding is carried out the respondent must also give a response to rearing/husbandry

Question Specific Definitions (Section 32.0.0)**Activity (Col 1):**

Subsistence: For the family's survival, rather than for the generation of cash. This includes feeding the hh, provision of water and fuel for cooking. The source of these products are usually from the land resources available to the family. Remember that not all cash earnings are for non subsistence purposes/activities as cash can be used to purchase subsistence items eg food.

Non -subsistence: Cash used for items and activities which are not crucial for the survival of the family. This includes modern medication, non working clothes, refined beer, school fees, etc.

Procedures for (Section 31.1)**Section 31.1 ((Labour use)**

1. For each listed activity in column 1, place a tick in column 2 if any member of the household was involved in that activity during the 2002/03 agriculture year.
2. After completing column 2 return to the first activity in row 27.1.1 and complete column 3.
3. Make sure you stress MAINLY responsible.

NOTE: If an activity has been mentioned previously in the questionnaire eg that the hh keeps chickens, make sure a response is obtained in the appropriate place ie poultry keeping.

If off-farm income generation is mentioned, check for responses to off farm income in other parts of the questionnaire

Section 32.0 - Subsistence vs Non-subsistence

1. For each listed activity in column 1, place a tick in column 2 if any member of the household was involved in that activity during the 2002/03 agriculture year.
2. After completing column 2 return to the first activity in row 32.1.1 and complete column 3 & 4. For each activity make an assessment of the percentage used for subsistence survival and the percent converted to cash for non subsistence goods and items.
3. Make sure you stress MAINLY responsible.

NOTE: Cross check the responses with previous sections in the questionnaire. eg if a response is given to remittances check for an entry in question 2.2.5

34.0 HOUSEHOLD FACILITIES																															
34.1	House Construction	34.2 Household assets																													
<p>For the main dwelling, what are the main building materials used in the construction of the following</p> <p>34.1.1: Roof <input type="checkbox"/> 34.1.2 Number of rooms <input type="checkbox"/><input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>Roof Material</p> <p>Iron Sheets.....1 Tiles2 Concrete3 Asbestos4 Grass/leaves.....5 Grass & mud.....6 Other (Specify) 8</p> </div>		<p>Does your household own the following?</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;">Asset</th> <th style="width: 20%;">Y=1 N=2</th> </tr> </thead> <tbody> <tr><td>34.2. Radio/cassette, music system)</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Telephone (landline)</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Telephone (mobile)</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Iron</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Wheelbarrow</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Bicycle</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Vehicle</td><td><input type="checkbox"/></td></tr> <tr><td>34.2. Television</td><td><input type="checkbox"/></td></tr> </tbody> </table>		Asset	Y=1 N=2	34.2. Radio/cassette, music system)	<input type="checkbox"/>	34.2. Telephone (landline)	<input type="checkbox"/>	34.2. Telephone (mobile)	<input type="checkbox"/>	34.2. Iron	<input type="checkbox"/>	34.2. Wheelbarrow	<input type="checkbox"/>	34.2. Bicycle	<input type="checkbox"/>	34.2. Vehicle	<input type="checkbox"/>	34.2. Television	<input type="checkbox"/>										
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34.5	Access to toilet facilities	34.6 Food consumption patterns																													
<p>34.5.1 What type of toilet does your hh use <input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>Type of toilet</p> <p>No toilet/bush.....1 Improved pit latrine - hh owned.....4 Flush toilet2 Other type (specify)5 Pit latrine - traditional ..3</p> </div>		<table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <tbody> <tr> <td style="width: 80%; padding: 5px;">34.6. Number of meals the hh normally has per day</td> <td style="width: 20%; text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="padding: 5px;">34.6. Number of days hh consumed meat last w</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="padding: 5px;">34.6. How often did the hh have problems in satisfying the food needs of the hh last year?</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Problems satisfying hh food needs (row 34.6.3)</p> <p>Never1 Seldom2 Sometimes3 Often4 Always5</p> </div>		34.6. Number of meals the hh normally has per day	<input type="checkbox"/>	34.6. Number of days hh consumed meat last w	<input type="checkbox"/>	34.6. How often did the hh have problems in satisfying the food needs of the hh last year?	<input type="checkbox"/>																						
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34.7	Source of Household income																														
<p>34.7.1 What is the households main source of cash income? <input type="checkbox"/><input type="checkbox"/></p> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>Source of Income codes</p> <p>Sale of food crops01 Wages or salaries in cash07 Sale of Livestock.....02 Other casual cash earnings ..08 Sale of livestock products ...03 Cash remittances09 Sale of cash crops.....04 Fishing10 Sale of forest products05 Other98 Business income.....06 Not applicable99</p> </div>																															

Definition and working page for page 20**Household facilities (Section 34):****Number of rooms used for sleeping in the household (Q 34.1)**

Include sitting room, dining room, kitchen, etc if used for sleeping. It also includes rooms outside the main dwelling

A room is defined as a space which is separate from the rest of the building by a permanent wall or division. A building/house that is not divided into rooms is considered to have one room.

Household assets (Q 34.2): these assets must be functioning. Do not include if broken.

Access to drinking water (Q 34.4): If there is more than one source, use the one, which the hh uses most frequently.

Main source of hh cash income:

Activity that provides the hh with the most cash during 2002/03 agriculture year.

Average/maximum yields						Use this table to compare the yields calculated in sections 7.1, 7.2, and 7.3. They are STRICTLY to be used as guidelines only and the sole purpose is to assist in getting the correct area and harvest for each crop					
Crop Name	kg/ha		kg/acre		Crop Name	kg/ha		kg/acre			
	Average	Max	Average	Max		Average	Max	Average	Max		
11 Maize	1200	6250	486	2530	86 Cabbage			0	0		
12 Paddy	700	4000	283	1619	87 Tomatoes			0	0		
13 Sorghum	750	3500	304	1417	88 Spinach			0	0		
14 Bulrush Millet	350	3000	142	1215	89 Carrot			0	0		
15 Finger Millet	300	2500	121	1012	90 Chillies			0	0		
16 Wheat	1200	4500	486	1822	91 Amaranths			0	0		
17 Barley	1400	2300	567	931	92 Pumpkins			0	0		
21 Cassava	3000	7000	1215	2834	93 Cucumber			0	0		
22 Sweet Potato	600	8000	243	3239	94 Egg Plant			0	0		
23 Irish potatoes	750	8500	304	3441	95 Water Mellon			0	0		
24 Yams	4000	10000	1619	4049	96 Cauliflower			0	0		
25 Cocoyams	2500	5000	1012	2024	52 Sisal	800	25000	324	10121		
26 Onions			0	0	54 Coffee	500	100	202	40		
27 Ginger			0	0	55 Tea	2500	10000	1012	4049		
31 Beans	400	1300	162	526	56 Cacao	200	1000	81	405		
32 Cowpeas	300	1750	121	709	57 Rubber	400	1400	162	567		
33 Green gram			0	0	58 Wattle			0	0		
34 Pigeon pea	600	2000	243	810	59 Kapok			0	0		
35 Chick peas	500	1500	202	607	60 Sugar Cane	60000	150000	24291	60729		
36 Bambara nut	600	4000	243	1619	61 Cardamom			0	0		
41 Sunflower	600	1700	243	688	71 Banana	10000	50000	4049	20243		
42 Simsim	300	1000	121	405	72 Avocado			0	0		
43 Groundnut	600	4000	243	1619	73 Mangoes	10000	25000	4049	10121		
47 Soyabeans	1300	2500	526	1012	74 Papaw	50000	70000	20243	28340		
48 Caster seed	300	750	121	304	76 Orange	20000	40000	8097	16194		
75 Pineapple	25000	60000	10121	24291	77 Grape fruit	30000	50000	12146	20243		
50 Cotton	300	1500	121	607	78 Grapes	5000	30000	2024	12146		
51 Tobacco	500	2000	202	810	79 Mandarin/tange	20000	40000	8097	16194		
53 Pyrethrum			0	0	80 Guava	7000	35000	2834	14170		
62 Jute	800	3500	324	1417	81 Plums			0	0		
44 Palm Oil	1200	5000	486	2024	82 Apples			0	0		
45 Coconut	2000	8000	810	3239	83 Pears			0	0		
46 Cashewnut	9	60/tree	4	24	84 Pitches			0	0		

Back Page Reference material

This page contains reference information that may be required to complete some of the questions in the questionnaire.

Weights and measures

1 hectare = 10,000 sq metres (100 x 100 metres)
 1 kilometre = 1000 metres
 1 acre = 4840 square yards (110 x 44 yards)

Conversions

1 hectare = 2.47 acres
 1 mile = 1.61 Kilometres

Kg equivalents

The following standards may be used as a guide to obtain kg if the reported unit is different. Only use these conversions if the respondent is unable to provide weights in kgs.

	Crop Name	Number of Kgs			
		Standard		Non-standard	
		Bag	Tin	Name	kgs
11	Maize	100	18	Rumbesi	140
12	Paddy	75	15		
13	Sorghum	100	18		
14	Bulrush Millet	100	18		
15	Finger Millet	120	20		
16	Wheat	75	15		
17	Barley	75	15		
21	Cassava	60	12		
22	Sweet Potatoe	80	16		
23	Irish potatoes	80	16		
24	Yams	80	16		
25	Cocoyams	80	16		
26	Onions	80	16		
27	Ginger	75	15		
31	Beans	100	20		
32	Cowpeas	100	20		
33	Green ram	100	20		
34	Pigeon pea	100	20		
35	Chick peas	100	20		
36	Bambara nut	100	20		
41	Sunflower	60	12		
42	Simsim	100	20		
43	Groundnut	50	10		
47	Soyabeans	100	20		
48	Caster seed	100	20		
75	Pineapple	90	18		
50	Cotton	50	10		
51	Tobacco	70	14		
53	Pyrethrum	60	12		
62	Jute	50	10		
44	Palm Oil	100			
45	Coconut	75			
46	Cashewnut	80			

	Crop Name	Number of Kgs			
		Standard		Non-standard	
		Bag	Tin	Name	kgs
86	Cabbage	50			
87	Tomatoes	90			
88	Spinach	45			
89	Carrot	110			
90	Chillies	85			
91	Amaranths	50			
92	Pumpkins	60			
93	Cucumber	80			
94	Egg Plant	70			
95	Water Mellon	80			
96	Cauliflower	50			
52	Sisal	130			
54	Coffee	55			
55	Tea	60			
56	Cacao	60			
57	Rubber				
58	Wattle	90			
59	Kapok				
60	Sugar Cane	120			
61	Cardamom	100			
71	Banana	120			
72	Avocado	140			
73	Mangoes	130			
74	Papaw	100			
76	Orange	130			
77	Grape fruit	120			
78	Grapes	80			
79	Mandarin/tange	110			
80	Guava	110			
81	Plums	110			
82	Apples	110			
83	Pears	110			
84	Pitches	110			

For official use only:

If a question has a query, an indication will be made by the supervisor/data entry controller on the front page of the questionnaire. This space is to note what and where the problem is, the action required to be taken and the responsible person to take follow up action.

Nature of the problem:

Action Required: National supervisor action

Field supervisor action

Overall Status: Does not affect overall integrity of the questionnaire.
 More data is required before it can be used

Discard and resample
 Discard as missing data